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PUBLIC GOVERNANCE COMMITTEE**

OECD E-Government Project

MEXICAN REVIEW: CHAPTER ON E-GOVERNMENT

LEVERAGING E-GOVERNMENT TO FIND NEW APPROACHES FOR OLD CHALLENGES

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TABLE OF CONTENTS

1. The background.....	4
2. The e-government context.....	5
2.1 E-Government: objectives and achievements.....	8
2.2 E-Government institutional and governance framework.....	11
2.3 Strengthening co-ordination and collaboration across levels of government.....	13
2.4 The National Interoperability Scheme.....	16
2.4.1 Achieving interoperability in Portugal.....	17
2.4.2 E-enabled co-operation among administrations in Italy.....	18
2.4.3 Spain’s regional interoperability framework.....	19
2.5 Measuring the government’s digital maturity.....	19
3. Strategic development of e-government.....	23
3.1 The Digital Government Agenda.....	23
3.1.1 The lines of action of the Digital Government Agenda.....	25
3.1.2 The Strategic Information and Communication technology Plans (PETIC).....	27
3.2 The Digital Agenda of the National System e-México 2010-2015.....	27
3.2.1 E-Government and the Digital Agenda of the National System e-México.....	29
3.3 The digital economy strategy.....	30
4. Main e-government projects and initiatives.....	31
5. Maximising e-government projects’ benefits.....	42
6. Reduction of administrative and substantive internal regulations.....	47
6.1 Manual Administrativo de Aplicación General en Materia de Tecnologías de la Información y Comunicaciones (<i>MAAGTIC</i>).....	47
6.2 Project for the homologation of IT regulation.....	49
7. Looking ahead: Leveraging new e-government services.....	50
7.1 The “cloud building” approach.....	50
7.2 The potential of mobile government.....	54
7.3 OECD experiences in implementing mobile government.....	55
7.4 Addressing the needs of disabled citizens in OECD member countries.....	56
7.5 Simplifying tax returns through mobile government in OECD member countries.....	56
8. Conclusions and key recommendations.....	56
Recommendations.....	57

Tables

Table 1. Digital maturity of the Mexican Public Administration.....	22
Table 2. Agencies’ reporting to the PETIC.....	27
Table 3. Key info-structure projects.....	33
Table 4. Public and Common Goods.....	51

Figures

Figure 1. OECD Broadband penetration and GDP per capita.....	6
Figure 2. OECD fixed (wired) broadband penetration (per 100 inhabitants) net increase.....	7
Figure 3. Fixed (incl. fixed wireless and satellite) broadband subscriptions per 100 inhabitants, by technology.....	7
Figure 4. Households with access to telephone, internet and computer.....	8

Boxes

Box 1. The Joint E-government Co-ordination Structure	15
Box. 2 Achieving collaboration and co-ordination across levels of government through the e-government Interoperability Framework in New Zealand.....	19
Box 3. Maturity Measurement Model for E-Government: A Focus on Results	21
Box 4. Evolution of the citizens' portal	34
Box 5. Italian E-Procurement Platform.....	38
Box 6. Saving on government IT spending and driving sustainable improvements across governments in the U.S.....	43
Box 7. Danish Fund for Innovative Projects Nationwide	45
Box 8. The Australian "Gateway Review Process"	46
Box 9. Australia's ICT "Two Pass" Business Case	47
Box 10. Ensuring co-ordination between institutions and across levels of government through the Administrative e-Service Directory (DVDV) in Germany	52
Box 11. Cloud computing.....	53

1. The background

1. Since the end of 2008 and throughout 2009 and 2010, economic activities in Mexico have been disrupted by a number of national and international exceptional circumstances the Government had to deal with. These include the sanitary emergency H1N1 and the economic and financial crisis. Additionally, 40% of total government budget is a result of oil exports, and in recent years the largest oil fields decreased the production and prices fell. As a result, several austerity measures were taken in 2009 which foresaw staff reduction and administrative budget reductions in the central government. Mexico is now experiencing a strong economic rebound with an expected GDP growth of 5.5% in 2010 and 4% in 2011, in a situation in which austerity measures are still in place while oil price is growing¹. In this context, e-government and regulatory reform have been seen, and still are, as important tools to counterbalance budgetary restrictions.

2. Over the past few years a considerable deregulation effort has, in fact, focused on boosting regulatory clarity and simplification. The global deregulation programme culminated in the development and implementation of nine unified manuals (later described in this chapter and in the chapter of this review covering regulatory matters) that expect to reduce 99% of the internal administrative regulations (1 192 of the 9 600 regulations dealing with administrative matters are specific to ICT).

3. Furthermore, President Calderon announced the goal to automate by 2012 70% of all government services (3 000 after regulatory clearance). Currently, 21% of government services have advanced towards this goal, which encompasses 626 services with some ICT component. There are 74 services of high impact, of which 47 are already fully digitised (100% online). Large-scale automation will most likely lead to ICT budget consolidation and distribution according to the single institution's capacity, and role, in delivering services to the citizens.

4. In relation to the 70% automatisisation goal, the implementation of the nine administrative manuals and the regulatory clearance process have shown that the reengineering process needed to boost administrative simplification will eventually slow down the automatisisation process in Mexico. To tackle this contingency, which may impact the capacity of the Government to achieve the targeted results, the Mexican Federal Government has put significant efforts on the automation of high impact processes; and this new approach is generating considerable results. For instance, a new single point of entry (online one-stop-shop) to initiate new business registration was established through the portal *www.tuempresa.gob.mx*. The latter, coupled with the decrease of the administrative burdens which resulted from the development of new options for online payment and from the increased use of accounting software, enabled Mexico to simplify business start-ups and improve the national context for entrepreneurs. This was also recognised by the World Bank's ranking on doing business where Mexico is listed among the countries that improved the most the national context for doing business and ranks first in the region.²

5. In the summer of 2010, the OECD conducted a questionnaire on the impact of the austerity measures on e-government. The response of the Mexican authorities reiterate how the 2006 Austerity Decree³ emitted by the President of the Republic at the beginning of its administration to lessen expenditure in the operations of the public federal administration by 25.5 billion pesos, specifically contemplated strategies of consolidation, outsourcing and sharing of ICT resources. The Decree of Austerity foresees the contracting in a consolidated way of ICT services, with the intention to provide the opportunity to get framework agreements that allow economies of scale and synergies in the contracting of these services.

6. Whenever unfeasible to consolidate the ICT requirements, the Decree envisages the need to request the approval of the Ministry of Public Administration through the E-government Unit. The Decree aims also to consolidate the contracting of computer services (*e.g.* hardware, software, technical support, maintenance) and replacement of equipments to avoid separate acquisitions whenever feasible. Ultimately, the decree aims to support the standardisation of common processes in the different ministries, to facilitate systems' interoperability and sustain systems' integration.

7. Finally, according to the questionnaire's responses, e-government priorities that have increasingly gained importance are: regulatory efficiency; the development of a national framework of interoperability; and the construction, protection and access to information conceived as public and common goods.

2. The e-government context

8. Public institutions in Mexico show a good level of digital maturity, which is the result of more than a decade of national investments on e-government, of a sound strategic approach, of the commitment shown by the political leadership throughout the years to optimise the use of ICTs within the public administration to improve its operational functioning and its interaction with businesses and citizens.

9. The analysis contained in this chapter identifies the richness of initiatives undertaken by the Mexican government to establish a conducive environment for e-government. These analyses demonstrate Mexico's sustained efforts and show how the country is strategically moving towards the right direction with the intent to take full advantage of ICTs in order to be innovative, boost public efficiency and increase quality of public services. For instance, web 2.0 based approaches and cloud computing are being explored as opportunities to change how public entities work and interact among themselves and with the recipients of their services.

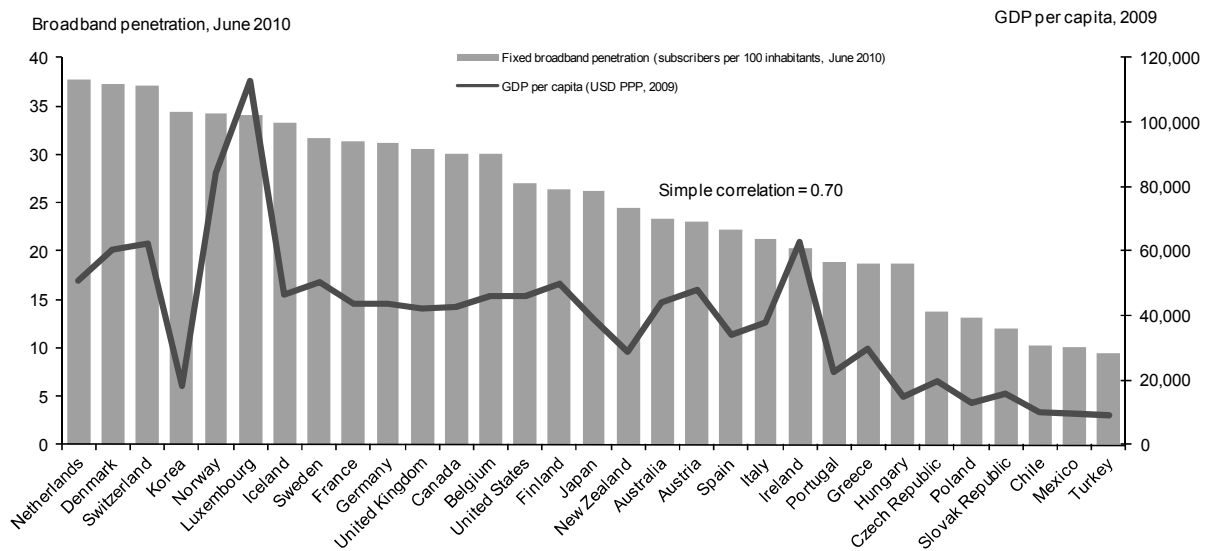
10. However, taking the necessary steps not only from a technological perspective, but also at the organisational and regulatory levels, is relevant to ensure the further development of e-government and to secure that the future development of ICTs applications and systems be supported by the institutional strategic planning. Internal consensus on what is public value and on the strategic national goals, and continuous political leadership will also be needed to sustain the development of integrated systems and processes which support strengthened interoperability.

11. A concrete example of the need to sustain the government's efforts to make appropriate decisions and ensure the continuous development of e-government is the fall of Mexico in international rankings, such as the one published every two years by the UNDESA.⁴ The fall in ranking should not be attributed solely to the budgetary restrictions of the last few years or to the fact that a good number of resources have been diverted from the development of e-Mexico -as indicated by some of the interviewees-rather than to the continuing development of websites. A more thorough analysis seems, in fact, to show that the lack of further development of the portals can be explained by the fact that the government has not focused on expanding the integration and interoperability of systems and processes. This has been affected not only by choices related to technological investments but also by some obstacles in the development of the legal and regulatory framework which still impede the full integration of processes and systems in the back-office.

12. Moreover, as progresses are made towards a greater automation and digitisation of services, it will be important to ensure an increase in the number of citizens using the internet. Reaping the benefits of e-government investments implies the existence of the desired level of up-take of public services and information provided online, particularly in consideration of the strategic focus of Mexico

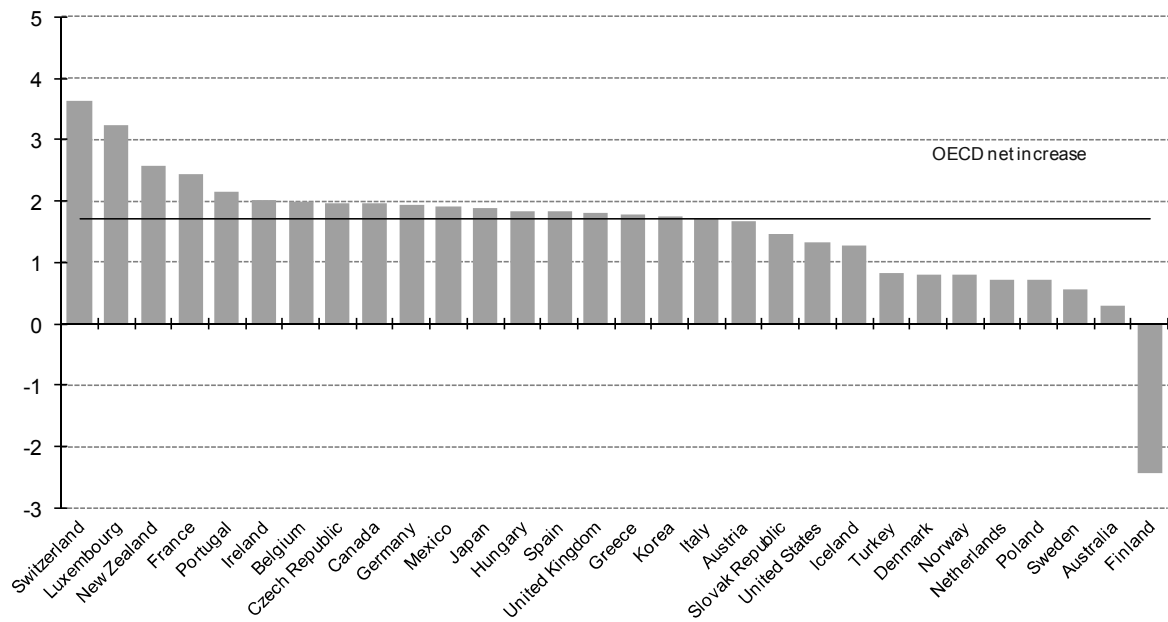
to increase the digitalisation of services and information. In this regard, it is important to mention that the number of internet users in Mexico is still low. The connectivity in the public sector is much higher than the level of society's connectivity. The main reason behind these numbers seems to be related to market conditions, as the connectivity cost is still very high. As a result, the digital divide still appears to be an issue the government has to deal with. Although the net broadband penetration has shown some increase, the overall level of broadband penetration in most of the country is lower than the level of infrastructure and technical skills would seem to allow, and below the OECD trends.

Figure 1. OECD Broadband penetration and GDP per capita



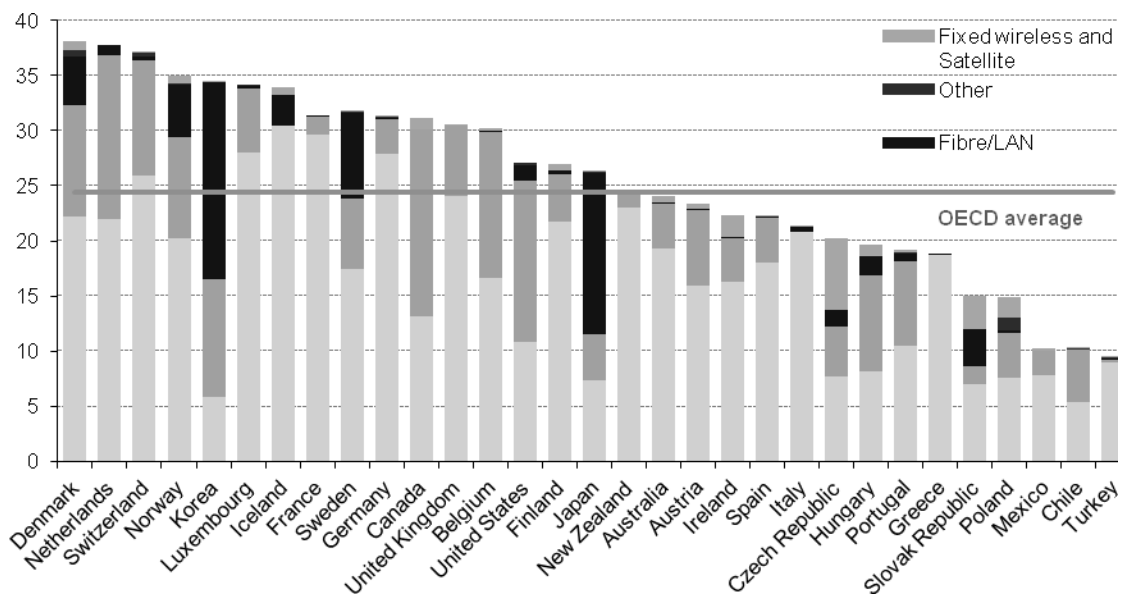
Source: OECD Broadband Portal, June 2010.

Figure 2. OECD fixed (wired) broadband penetration (per 100 inhabitants) net increase



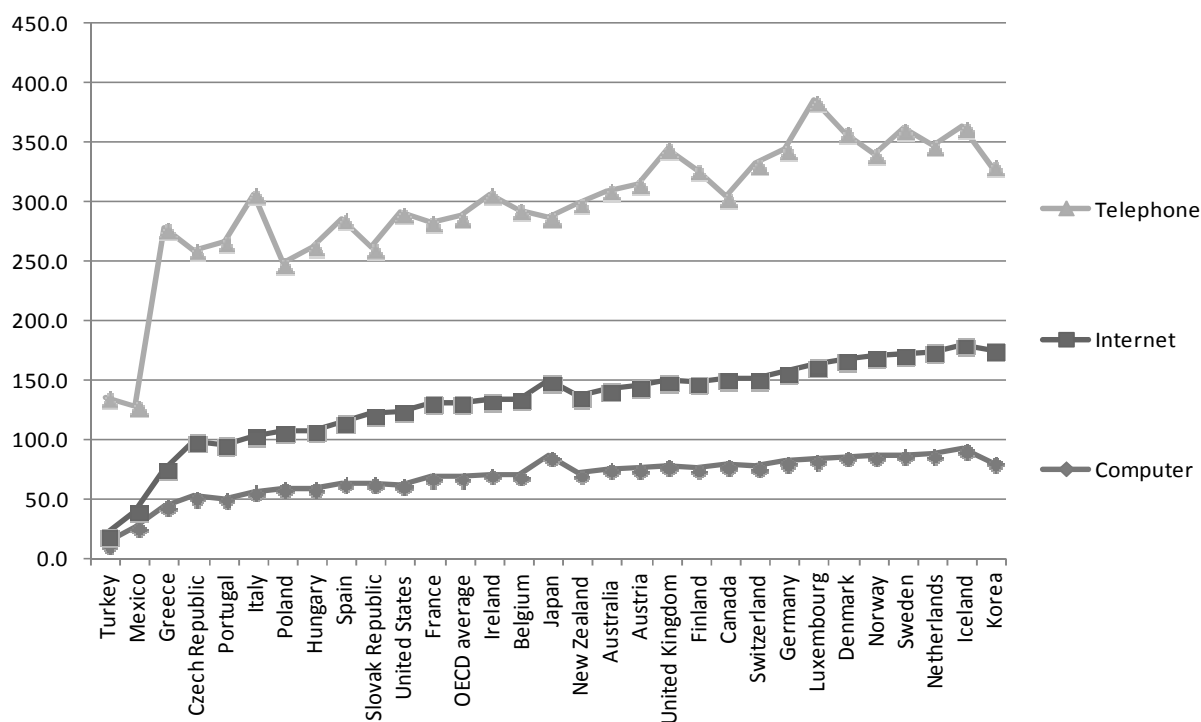
Source: OECD Broadband Portal, June 2010. Data on OECD Broadband penetration (per 100 inhabitants), net increase refers to the period of June 2009-2010.

Figure 3. Fixed (incl. fixed wireless and satellite) broadband subscriptions per 100 inhabitants, by technology



Source: OECD Broadband Portal, June 2010.

Figure 4. Households with access to telephone, internet and computer



Source: OECD Factbook, 2010. Data refers to 2008 or most recent figures.

13. Figure 4 shows the need to potentiate the basic infrastructure and an industry that is not a luxury but a right to foster social empowerment. In fact, ensuring access and providing incentives to use the Internet and to access digital services by bringing online the 70% (*i.e.* 68 million) of Mexican citizens that do not access ICTs will be crucial in the future. This aspect deserves greater attention if the government wants to reap the benefits it expects to obtain by increasing the offer of fully digital services. Completely aware of the relevance of this matter, the Government has indeed set the goal to increase the number of internet users to 70,000,000 inhabitants (or 22 out of 100 citizens) by 2015⁵. These efforts will contribute to securing an adequate level of take-up of e-government services as auspicated by the Government.

14. It should be underlined that the Mexican government identifies the advancing to the information and knowledge society as a general development goal, The need for a National Digital Strategy is part of such goal, in this regard, the national digital strategy is seen as comprising two elements: 1. The Adoption of ICT by the society, where the government acts as a regulator and only where markets fail puts in place a mechanisms like E-Mexico and 2. The adoption of ICT by the government - *i.e.* e-government - where the pillars are operational efficiency, reduction of transaction costs and delivery of information public goods.

2.1 E-Government: objectives and achievements

15. The vision of the Mexican government is to take full advantage of the ICTs to ensure the development of an Information Society which shall be competitive, inclusive and innovative. E-government is defined by the OECD as the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government.⁶ This is embedded in the wider vision of the Mexican government in the pursuit of the Information Society (*i.e.* National System e-Mexico)

as well as in the Digital Government Agenda. The latter has in fact two major components: 1) the adoption and use of ICT by the wide society through the market where the main drivers are, price, quality and coverage and 2) the adoption and use of ICT by the government where the main drivers are enhancing operational efficiency of public institutions, reducing transaction costs between citizens and government, and building information public goods as reflected by the Digital Government Agenda.

16. Additionally, the government of Mexico has widened its visionary and conceptual approach to e-government development which is driving national ICT and e-government initiatives and projects. The Mexican E-government strategy (the Digital Government Agenda) is indeed based on the concept of e-government seen as “The use of ICT to foster construction, protection and distribution of common and public goods” and on the acceptance of several sets of information as public goods, e.g. civil and property registers, national statistics, criminal, justice and education records.

17. E-Government plays a fundamental role even in relation to the National Development Plan 2007-2012.⁷ Priority number 5 (embedded in Chapter number 5) of the latter aims at boosting effective democracy and responsible foreign policy. The relevance of e-government stands out particularly in relation to the strategic goal 4, to “improve the regulation, management, processes and results of the Federal Civil Service to meet the needs of the citizens in terms of provision of goods and services.” In fact, in order to improve the performance of the public administration at the federal level, the Plan envisages, among others, the following strategy: raising standards of efficiency and government effectiveness through the systematisation and digitisation of all administrative procedures and the use of information technology and public management communications.

18. In compliance with the provisions of Article 69 of the Constitution, on 1 September 2010, the president of Mexico gave to the Congress his speech on the state of the nation (*Cuarto Informe de Gobierno*). In his speech, he reported on Priority 5 specifically with regard to goal number 4, and in relation to the following strategic objective: to increase the availability and quality of online administrative procedures and public services.

19. Specific reference was made to the Citizen Portal (www.gob.mx) developed by the Federal Government which has established itself as the primary means of online access to the mostly used public formalities and services 24 hours a day, seven days a week, thus promoting better communication between citizens and government. Additionally, the Portal offers information access channels to the orders and decisions at Federal, State and Municipal government levels as well to the decisions of the Executive, Legislative and Judicial powers, which helps to raise the quality of service delivery and information provision (more information on the Federal government’s portal is provided later in the chapter).

20. Moreover, the President reported also on the results achieved in relation to the ten-point agenda for transforming Mexico (“*Diez puntos para transformar a México de Fondo*”) set a year earlier.⁸

21. The report on the eighth commitment to “undertake a substantive regulatory reform to enhance the competitiveness of the economy”, indicated that:

1. More than nine thousand administrative rules were eliminated and were replaced by nine Administrative Manuals that standardised the most common processes in different areas across the Federal Public Administration which foresaw, or were including, the use of ICTs;
2. A regulatory ban was issued which prohibits the issuance of additional regulations,

3. A decree was issued to provide fiscal facilities, eliminating, for example, the flat tax monthly statement and annual VAT declaration, among others, and
 4. Regulatory simplification measures were enacted on imports which concern, among others, technological goods.
22. The updates provided in early September 2010 by the President, concerned also some of the major e-government projects undertaken to reach the aim set by the ten-point agenda, and this fact underlines the key instrumental value of e-government⁹ *vis à vis* national social and economic development in the perspective of the Mexican government.
23. The examples of improved procedures and services include:
- Within the tax administration area: the digitalisation and simplification of tax administration, e.g. inscription in the register of tax payers (RFC) and the implementation of the advanced digital signature system (FIEL);
 - Within the Ministry of Communication and Transports' competencies: the implementation of an e-license system to be made available nationally for the issuance of drivers licenses and the development of a database supporting an integrated system with the information on the federal auto-transport system;
 - Within the Ministry of Education's area: the expedition of registration and professional identification. Out of the 6 168 029 of the directorate general of professions records, 4 175 133 records were digitised, which facilitated and improved the responsiveness to the users; the development of an online system of appointments enabling to plan a flux of users to better assist them; and the deployment since July 2009 of a system of electronic payment of entitlements;
 - Within the Ministry of Foreign Affairs' area: the digitalisation of a database supporting the interoperability between the S.R.E (*Secretaria de Relaciones Exteriores*- Foreign Affairs Ministry) and the INAMI (*Instituto Nacional de Migracion* – National Immigration Institute) was concluded which enables the exchange of information on movements between consulates, visas issuance, *etc.* and decreases the transaction costs and time of the service delivery to the citizens;
 - Within the Mexican institute of Industrial Property's responsibilities: the procedure for trademark application and provision were simplified, and in the second half of 2009, a project was started for the online receipt of applications for trademark registration through the portal www.tuempresa.gob.mx;
 - Within the Federal Consumer Office's tasks: the system CONCILIANET was implemented which improves the quality and responsiveness of the conciliation process thanks to the electronic means. This reduced completion time of procedures by half and enabled the Office to respond to 98% of the complaints received; and
 - The Advanced Digital Signature Initiative (*Ley de Firma Electronica Avanzada*) sent to the Congress by the President at the end of 2010, which is expected to give to the digital signature the same legal recognition as the written signature. On 22 March 2011 the Senate approved the Initiative and the approval of Congress is now pending. Other than facilitating the transactions between government and citizens, as well as between governments and

businesses, the project aims to transform the digital signature into a digital public good by enabling improved citizen to citizen, business to business transactions. The digital signature is expected to guarantee the authenticity and source of the information in transactions in order to avoid repudiation of data and transactions, to allow for data integrity by restricting changes to signed messages, to allow confidentiality by restricting access or distribution to unauthorised people.

2.2 E-Government institutional and governance framework

24. Three of the main components in the development of an Information Society in Mexico are: e-government (the focus of this strategy is the government and the main responsible institution is the Ministry of Public Administration), digital economy (the main focus of this strategy is businesses and the main responsible institution is the Ministry of Economy) and social connectivity (the main focus of this strategy is society and the main responsible institution is the Ministry of Communication and Transport).

25. The Ministry of Economy, the Federal Commission for Regulatory Improvement (COFEMER), the Ministry of Communications and Transportations, the Federal Telecom Commission work on the market part of ICTs spread and use dealing with quality, access and price problems on the market. The National System e-Mexico (later described in this chapter and under the overall responsibility of the Ministry of Communication and Transport) deals with the last three deciles of the population to close the digital divide where markets no longer work. The Public Administration Ministry and the Commission for the Development of Electronic Government (CIDGE) are the entities responsible for solving the e-government part of the strategy.

26. In charge of e-government development and implementation, the Ministry of Public Administration has the main responsibility to conceive the strategy as well as the normative framework needed to foster and optimise the utilisation of ICTs in the federal public administration. Co-ordination among the various stakeholders is ensured through the Inter-ministerial CIDGE. The CIDGE was created by Presidential Agreement and published on 9 December 2005 in order to promote and strengthen co-ordination to support the use and exploitation of information and communication technologies in the federal public administration. This Agreement sets out the mechanisms of co-ordination between agencies and entities, and the following groups participate:

- the Executive Council;
- the Technical Councils;
- the subcommittees (*i.e.* Sub-Committee on the Advanced Digital Signature; Sub-committee on the Automated Control Systems Management; Sub-Committee for the co-ordination with the states and municipalities);
- the Consultative Group;
- the President of the Commission is the Minister of Public Administration and the Executive Secretary is the Head of the Unit for Digital Government.

27. The main tasks of the CIDGE, as established by the Presidential agreement, are:

- to assess the needs in terms of ICTs in the public administration at the federal level and recommend measures for their development;

- to support agreements for funding research of projects development with agencies and entities, national and international organisations and institutions, either public or private;
- to promote the establishment of mechanisms for co-ordination and co-operation with federal authorities, the Attorney General of the Republic, the governments of the states and municipalities, as well as with public and private national and international entities, to promote the exchange of information and experiences, and the analysis of common issues and joint projects in e-Government and ICT;
- to propose the establishment of a technological architecture within the federal public administration, with a vision to the strategic management of ICT services to define and align the processes of Federal Government, through the use of operational models to identify opportunities to replicate or reuse resources, improve effectiveness and achieve cost savings to improve services provided to citizens, to the extent that technical, organisational and budget of each institution allow it;
- to promote the establishment of interoperability mechanisms that allow the use of the technology infrastructure and processes horizontally across the public administration at the federal level;
- In accordance with the need to report on results and actions to the Subcommittee on Advanced Electronic Signature, to promote within the agencies and entities mechanisms in order to facilitate the implementation, operation and standardisation of procedures and technology;
- in accordance with the need to report on results and actions to inform the Subcommittee on the Automated Control Systems Management, to promote among the agencies and entities, mechanisms for the implementation of interoperability standards and guidelines for the standardisation of automated control systems management and communication through the use of electronic means;
- to establish the regulatory framework essential to e-government.

28. The Government sees the Sub-Committee for the co-ordination with the states and municipalities, which is part of the CIDGE, as playing a key role in co-ordinating the work in areas relevant to electronic government. These areas are of common interest and contribute to the central themes of the strategies of e-government and to the development of the information society. The Sub-Committee's actions are considered to formalise the collaboration across the three levels of government to develop national plans of collaboration that can be translated into concrete and achievable plans.

29. The federal government can play a significant role to assist the municipalities and states with less advanced levels of e-government development to access and adopt national or international good practices. The collaboration of the Ministry of Public Administration with the states and municipalities is envisaged to be ensured through the Unit for the Digital Government Unit (UGD), the Sub-Committee for the co-ordination with the states and municipalities of the CIDGE and also directly with the participation in the Commission for the Information of the Public Administration and the State and Municipal Levels (CIAPEM), whose establishment was meant to enhance the exchange on best practices between states, municipalities and the federal government, as foreseen by the Digital Government Agenda.

30. CIAPEM is the national body that helps guiding the technological development in the whole country and has among its objectives:

- to encourage the development and use of projects related to the use of information and communications technologies (ICT) in state and local governments,
- to promote the participation of local authorities and the municipal government to exchange experiences and actions,
- to promote the planning, operation and use of ICT resources in the state and municipal government, and to improve the communication between its members and public and private organisations. This committee is composed of states and municipalities that want to participate actively and chairmanship of the committee is renewed annually, through an electoral process. Since 2006, the Chair of this Committee has been occupied by the governors of various states. The Chairman of the Executive Committee represents the Subcommittee CIAPEM Liaison with states and municipalities and in the Consultative Group of the Interdepartmental Commission for the Development of Electronic Government (CIDG).

2.3 Strengthening co-ordination and collaboration across levels of government

31. Co-ordination within and across levels of government, with a clear assignment of responsibility for the administrative development of e-government services and projects is crucial to achieve results, to address inconsistencies in e-government services supply associated with sector development, and to sustain greater integration in the back-office, resulting then in higher integration in public service delivery.

32. Aware of the scarce impact and limited number of decisions taken by the CIDGE in the previous five years, at the end of 2010 the Government proposed its comprehensive retooling. This should tackle the criticism expressed towards the Commission's role and impact. Several representatives of different agencies of the federal public administration met in July 2010 at the OECD. They claimed indeed that even though the government's efforts to ensure an effective and efficient level of collaboration and co-ordination across levels of government in the area of e-government are evident, the CIDGE has little strategic visibility and a weak political influence.

33. Lack of effective co-ordination and strong political leadership may limit benefits' realisation, even in the presence of well thought of, and strategically planned, e-government initiatives and projects. This could possibly explain the discrepancy between the generalised perceptions of e-government's having lost momentum in Mexico and the continuous efforts and investments made by the government to progress in its development.

34. To change the situation, a number of very important decisions were taken in December 2010 with regard to the CIDGE. The aim of these decisions was to change some of the sub-commissions and dismantle some of the technical groups. Some of the most relevant decisions, which shall impact the effectiveness of the CIDGE include those highlighted in the paragraph below. The CIDGE approved the establishment of the sub-commission for interoperability, whose main objective is to implement the "National Interoperability Scheme" (*Esquema Nacional de Interoperabilidad* (ENI))¹⁰ once the decree authorising its development is released.¹¹ For the time being, the decree has been approved by the Federal Government, academia and industry, and the legal validation is awaited. The sub-commission will report to the CIDGE and will work in co-ordination with its Executive Council. This is a crucial step to push forward the scheme's implementation and to achieve results in terms of

interoperability. This is particularly important in consideration of the high relevance associated to interoperability by the government of Mexico to maximise the impact of the use of ICTs to promote the exchange of data, information and knowledge, which will sustain the integration of the operations and / or processes of the Federal Government and thus increase efficiencies within the public sector and in the delivery of public services to produce benefit for the citizens. This will lead to a streamlining in the use of ICTs through the exchange, reuse and apportionment of shared technology resources, and to the strengthening of the co-operation and co-ordination, integration and development of shared and transversal digital services.

35. Also, the development of the Mexican plan was guided by the international instruments that enshrine the need to create tools for the exchange of experiences on e-government and, specifically, on interoperability, such as: the "White Book on Electronic Government Interoperability for Latin America and the Caribbean ", published by ECLAC¹², the "Basis for Interoperability Latin American Strategy", published in the " XII Iberoamerican Conference of Ministers of Public Administration and State Reform "and The "Buenos Aires Consensus," which was published in the framework of "XX Iberoamerican Summit of Heads of State and Government."¹³

36. In this sense, the Mexican decision follows the best international practices which show that the effective implementation of an interoperability scheme requires, prior to its adoption, the establishment of a body in charge of developing the matter (*i.e.* understanding the context and identifying the problems to be addressed through the scheme to promote its development and implementation).

37. The adoption of the interoperability scheme represents an excellent concrete example of a policy decision taken by the Ministry of Public Administration to respond to the 2007-2012 National Development Plan (NDP) which calls for modern, adequate, clear and simple rules effectively regulating all areas of national life and for boosting, with the support of ICTs, administrative simplification and regulatory reform throughout the public administration in order to produce a direct impact on the fight against discretionality, arbitrariness and corruption, and to tackle the need to increase co-ordination across the federal public administration.

38. Moreover, the changes in the institutional framework also affected the technical councils which were restructured as follows: *a)* Disintegration of the technical councils of structure and functions of ICT areas, use of ICT resources, strategic planning of ICT, security and privacy of ICT and software use (this considering that MAAGTIC has substituted these functions) and the disappearance of the interoperability technical council as a result of the creation of the interoperability sub-commission. The Internet, government sites and technical council will answer to the interoperability sub-commission.¹⁴

39. These are important re-organisational steps which have been undertaken by the government of Mexico to ensure the right kind and level of co-ordination and clarity in terms of responsibility, in order to secure the correct political support for the key areas and projects as well as support the effective achievement of the target results.

40. Furthermore, if we consider the national e-government enabling environment in light of effective co-ordination and collaboration, the fact that each ministry has its own budget seems to hinder improved integration and co-ordination of initiatives. This may result in a duplication of efforts and systems, and in a loss of opportunity to create synergies and foster integration and interoperability.

41. Finally, the perception is that the tasks, responsibilities and mandates of CIOs – or similar functional roles – seem to differ among ministries, which is an aspect worth attention and

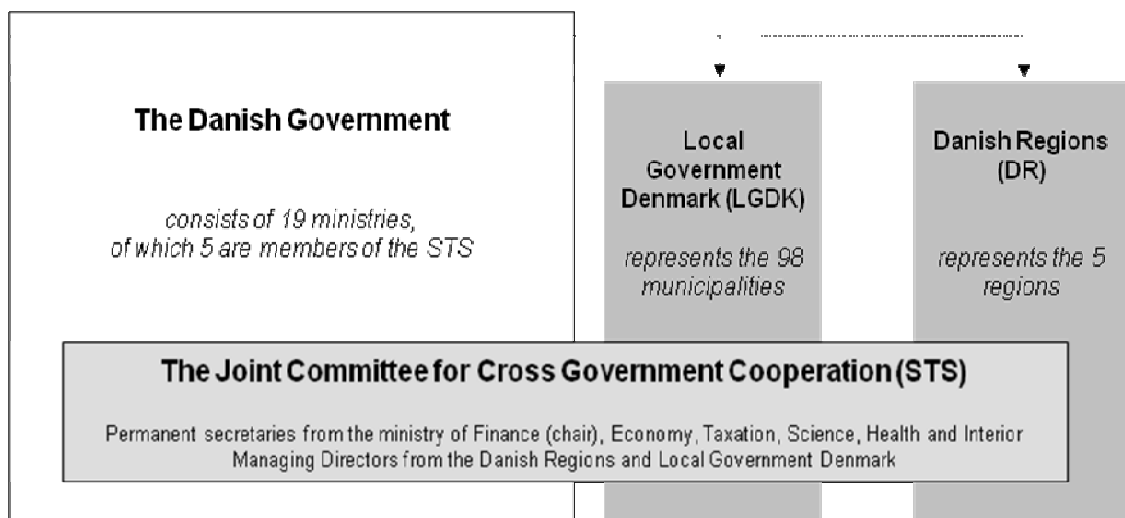
consideration from the government with regard to the establishment of a public-sector wide context that enables a coherent development and implementation of e-government projects and systems. In this regard, the Mexican government has taken important steps in August 2010 through the adoption of the Administrative Manual of General Application in the ICT domain (*Manual Administrativo de Aplicación General en Materia de TIC (MAAGTIC)*)¹⁵ that clearly establishes what is expected of the CIO's throughout the Federal Government.

42. This adds up to the fact that even though the various ICT related strategies in Mexico are all providing examples of sound strategic approaches, the impression is that what is lacking is a co-ordination mechanism capable of linking them all. Once carried out by the body responsible for the implementation of e-Mexico, this co-ordinating role seems to have been left empty as a result of the fact that the original governance framework (co-ordination mechanism) supporting its implementation has been dismantled (see more on this later in the chapter), and that the CIDGE does not have enough political influence. A revised co-ordination mechanism capable to efficiently connect the various strategies, to secure their effective implementation and to increase coherence and synergy among the various initiatives, and of these with the national strategic objective, seems to be needed. It would also ensure the right level of political leadership which is perceived as being missed.

43. Effective co-ordination may be achieved through a different number of arrangements. OECD countries' experiences show that approaches to e-government co-ordination vary greatly reflecting the political and administrative tradition, e.g. the structures of government decision-making, the extent of centralisation or decentralisation of responsibilities in government. Some countries have created strong national chief information officer positions or CIO councils (e.g. Austria, Australia, the United Kingdom, the United States) while others have relied on the establishment of co-ordination bodies gathering all main stakeholders (e.g. Denmark, Switzerland).

Box 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 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).



Since the 2005 OECD e-government country study of Denmark, the former Joint Board of e-government¹⁶

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 Project E-Government for the strategy period 2007-2010 with a Digital Taskforce with 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 associations representing the municipalities and the regions. STS has the following mandate:

- STS should 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.
- STS should 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.
- STS should commence initiatives that broaden e-government implementation in the public sector.
- STS should decide joint public sector initiatives in order to overcome barriers (legislative and regulative, technical, organisational, etc.) for e-government implementation.
- STS should contribute to resolving specific conflicts of interest that have not been possible to resolve

Box 1. The Joint E-government Co-ordination Structure (cont.)

within e-government projects.

- STS should clarify model(s) for future operation and maintenance of e-government projects.
- STS should clarify solutions for coherency between efficiency and e-government solutions in order to ensure the right incentive structure.

Source: OECD (2010), E-Government Studies. Denmark: Efficient e-Government for Smarter Public Service Delivery.

2.4 The National Interoperability Scheme

44. The Mexican government considers the adoption of the “National Interoperability Scheme” (*Esquema Nacional de Interoperabilidad* (ENI)) and the development of the “Interoperability for communications exchange systems project” - to be executed by the sub-commission of the communications exchange according to the plan presented to the CIDGE in December 2010¹⁷ - as ways to strengthen the co-ordination mechanism and support greater integration. Focused on citizens, the scheme aims to foster the achievement of the overall goal to integrate, promote and boost digital processes. Its specific objectives are to define the reference and the basis for the establishment of the strategic framework, develop the needed normative instruments to support its implementation and ensure its proper diffusion and promotion. Hence, the ENI is intended to create the necessary conditions to secure the achievement of the desired level of technical, semantic and organisational interoperability as well as the governability of the systems and applications of the federal Public Administration. As a result, it is expected to sustain improved co-operation and exchange of information between public agencies for improved service delivery and access to information (seen as public goods). The scheme should indeed facilitate the definition of an interoperability platform for the development of systems, applications and services in various business domains (*e.g.* health, social services, education, security).

45. Experiences in OECD countries have shown that different reasons can serve as drivers for a country's pursuit of interoperability. The targeted outcome will determine a country's approach for developing an interoperability framework. For instance, some countries may be inspired by the need to make it possible for older stove-piped information systems to communicate with each other; others may aim to overcome the situation where administrations manage and exchange digital information organised and formatted in many different ways, in order to cut down the large costs associated with exchanging data, time delays, data errors and multiple data entry by citizens and businesses; while others simply want to develop the infrastructure required for the sharing of services and the exchange of information, efficiently and in a secure way, among the various agencies of local and central government. Moreover, priority can be given to schemas that serve the requirements of services or processes that are generic across many public sector organisations; or precedence can be given to new, joined-up services and inter-organisational process developments.

46. Despite the differing driver for targeting interoperability, experiences in other OECD member countries show that this approach can indeed lead to higher flexibility and easier scalability in the development of additional services, as well as to the development of integrated and transactional services among public agencies. In this regards, in the short term it can provide a framework for an effective, efficient and transparent interaction of systems based on public data, which can support the strengthening of single points of access for the citizens and businesses. In the medium and longer term, the ENI can facilitate the development of the IT industry and, particularly, create the context for the development of transactional systems joining up various types of technologies (*e.g.* fixed and mobile). These types of integrated systems will increase the possibility to use public electronic services such as the digital signature, the RUPA (Unique Population Registry Code) and the CURP (Single Register of federal Public Administration's Contractors). As a result, it may increase the Return on Investment (ROI) and facilitate the uptake of electronic services already available.

47. In conceiving the Scheme, the government of Mexico referred to the best international experiences in terms of complementary solutions more commonly used to form a national integral scheme such as a national interoperability scheme, an interoperability framework, a national architecture, and a services' infrastructure.

2.4.1 Achieving interoperability in Portugal

48. Portugal, similarly to other OECD countries, was challenged by the need to make old stove-piped information systems communicate with each other. To meet this challenge, the Portuguese Agency for the Modernisation of the Public Administration (AMA) created an interoperability platform and a Common Services Framework providing the following capabilities:

- **Data integration.** The adoption of a standard data model that allows different government systems to exchange data. This allows all government agencies to accept a single citizen data submission – such as a change of address or name- and eliminates the need for citizens to fill out redundant paperwork.
- **Application integration.** Web services that connect all applications, regardless of programming languages and hardware.
- **Simplified identification.** Citizens identify themselves once to the Common Services Framework and can then submit data to multiple government agencies, although citizens continue to have distinct identities with each agency. Once data is sent over the network, identification consists of embedded individual identities based on random numbers. Unique identification numbers are not allowed according to the Portuguese constitution.

- **Privacy and security.** Active Directory Services ensures that only encrypted tokens are sent over the Internet, not identification information. Agencies may also send encrypted messages over the Common Services Framework.

49. The Interoperable Platform and the Common Services Framework, together, serve as enterprise architecture. They provide both the technical foundation for communication among government agencies and open possibilities for rearranging and changing organisational structures and workflows. The purpose of the interoperability platform is to improve workflows rather than share information and data. The Interoperability Platform is established in accordance with the *European Interoperability Framework for Pan-European e-Government Service*.¹⁸ Use of the Interoperability Platform and the Common Services Framework is mandatory for Portuguese central government organisations, but not for autonomous regions and municipalities. Each public authority decides on access criteria, for example cross-checks with tax and social security.

2.4.2 E-enabled co-operation among administrations in Italy

50. In Italy, ICAR (*Interoperabilità e Cooperazione Applicativa tra le Regioni e le Province Autonome*) was set up as a shared technical infrastructure to foster co-operation among Italian regional authorities, following the national standards defined for the development of the Public Connectivity and Co-operation System (*Sistema Pubblico di Connettività e Cooperazione* (SPC)). In particular, ICAR's objective in developing the shared technical infrastructure was to allow co-operation and interoperability among the different systems of 16 regional authorities¹⁹ (out of a total of 19) and of the autonomous province of Trento and their 10 000 public administration offices to provide integrated services to customers. This project aimed to address the current situation in Italy where administrations manage and exchange digital information organised and formatted in many different ways, which caused high costs for data exchange, time delays, data errors and the need for multiple data entry by citizens and businesses.

51. Implemented as part of the Italian e-government plan for regional and local authorities, ICAR's overall goal was to establish a secure regional public administration network; to guarantee data exchanges and application co-operation across all public administration units in different regions; and to implement and test standard protocols and formats for data exchange in a number of critical applications for the delivery of services. In particular, the business application project aims to test the quality of the services within specific domains where co-operation among regional authorities is crucial, e.g. compensations in health services, civil registration services, job and employment services, regional car taxation and others.

52. ICAR's impact is not easy to measure, as it differs in each region, depending also on the business domain. However, impact includes a number of effects. In the short-term effects include for instance regional authorities' efforts to standardise and optimise the information systems and flows addressed by ICAR. This effort has also involved central government in terms of analysis and possible revision of existing laws and regulations in order to make the above changes possible (this has happened, for instance, with the Ministry of the Interior which rules over the civil registration service, managed at operational level by each Municipality). In the longer-term, ICAR has the potential to benefit millions of citizens and companies of the regions involved, along with over 10 000 public administration offices, thanks to the increased speed of data exchange and processing, leading to less waiting time, improved "quality" of data exchanged, with the reduction of a number of current shortcomings (e.g. disputes on inter-regional compensations for health services)²⁰.

2.4.3 Spain's regional interoperability framework

53. The Castile and Leon regional interoperability framework²¹ is a strategic initiative creating a SOA Interoperability platform with the aim to provide the region with the necessary infrastructure for the sharing of services and the exchange of information in a efficient and safe way among the bodies comprising the Castile and Leon government (Ministries, Autonomous Bodies, etc), the 2 247 Town Halls, the nine Provincial Councils and, between these administrations and the companies of the region, as well as to provide national and European services. The Castile and Leon Region has a population of 2.54 million inhabitants living in 2 247 municipalities, which makes it the largest region in Spain. These facts explain the challenges faced in order to achieve an interoperability model allowing the exchange of information. In such circumstances, the regional government decided to use an interoperability model completely based on open standards.

54. The interoperability platform was based on three guidelines:

- **Simplify** by replacing bilateral connections between regional agencies with a network hub model. A Service Oriented Architecture (SOAP) based model expected to allow the region to manage web services for a more simple integration, modification and management, and for an exchange of information based on easier transmission, storage and use.
- **Normalise** by using XML and other standards for data transfer and adopting the technology neutrality principle.
- **Increase security** through creation of the citizen gateway and on web services clients.

55. The interoperability model adopted by the Castile and Leon government has been designed and implemented by the General Directorate for Innovation and Administrative Modernisation (*Dirección General de Innovación y Modernización Administrativa*). During its design, discussions took place with the department managers from the different ministries and autonomous bodies in order to show them the model under implementation and, with some of the development and maintenance staff in order to understand their needs.

Box. 2 Achieving collaboration and co-ordination across levels of government through the e-government Interoperability Framework in New Zealand

The government of New Zealand has adopted 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 (2010), OECD e-Government Study. Denmark: Efficient e-Government fir Smarter Public Service delivery, OECD, Paris.

2.5 Measuring the government's digital maturity

56. Particularly in the aftermath of the economic and financial crisis, OECD governments are increasingly asked to produce and measure results. In line with the overall tendency in OECD member countries, measuring the performance and assessing the maturity of the federal public administration to optimise the use of ICTs is also crucial for the Government of Mexico.

57. The Mexican government considers measuring the maturity of digital government as an opportunity to determine how ready the government is in providing services supported by ICTs. In October 2009, a measurement of the degree of maturity of the digital government was conducted and an average rating of 7.01 was obtained. This rating places the digital development of the federal public administration at a level of intermediate maturity. However, 21.13% of the institutions still seem to have an area of important opportunity to reach the intermediate level of maturity.

58. Assessing the agencies' maturity implies answering questions concerning their ability to use ICTs to improve operational efficiency, to support production and protection of public and common goods, to improve the access to public and common goods by reducing transaction costs between the government and the citizen; as well as their ability to establish proper information structures - which are part of the information public goods - and to make these structures interoperable.

59. To do the above, Mexico adopted an innovative approach which led the government to the adoption of the "Digital Maturity Evaluation Model" which comprises results indicators, operational indicators and international indicators.

Box 3. Maturity Measurement Model for E-Government: A Focus on Results

<p align="center">Results Indicators: the effect of using ICT in Government:</p> <ol style="list-style-type: none"> 1. Public Value 2. Services to Citizens 3. Services to Agency 	<p align="center">Operational Indicators: Efficiency in applying ICT in Government:</p> <ol style="list-style-type: none"> 1. IT Supply Processes 2. IT Supply Metrics 3. Efficiency in Services to Citizens and Agencies 	<p align="center">International Indicators: Benchmarks from other countries:</p> <ol style="list-style-type: none"> 1. United Nations 2. OECD 3. Individual Countries
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Source: OECD, derived from documents provided by the Ministry of Public Administration.

60. The new e-government evaluation model is one of the new projects implemented in 2010 as a pilot in 21 ministries. The plan is to use the maturity model in 2011 to measure the efforts of 190 federal government institutions. The model has an innovative component. Besides focusing on more traditional processes and inputs, Mexico embedded in its maturity model new concepts on the maturity of the actual use of ICTs in management processes within agencies to support the carrying out of their missions and to deliver services to citizens and civil servants. The innovation of the methodology entrenched in the model relates to value creation measurement. Measuring this aspect is crucial in order to assess the performance in using e-government to achieve results and this approach is very innovative among the methodologies currently used in the OECD context. The new concepts rely on the citizens' assessment as well as on the assessment of the civil servants.

61. By developing the maturity model, the Mexican government intended to provide each government agency's management team with a tool to enable self-assessment on the outcomes of ICT use and on the quality of the ICT inputs to sustain improvements in applying ICT to their missions and to citizens' service. The maturity model aims to evaluate and assess how well ICT is actually used and applied in the production of value in government. This focuses on the following outcomes:

- Public Value: the maturity of agency effectiveness (enabled by ICT) in creation and delivery of public value in the agency mission.
- Value to Citizens: the maturity of agency effectiveness (enabled by ICT) responding to citizens' needs and achieving the mission of the agency.
- Value to Agency Staff: the maturity of agency effectiveness (enabled by ICT) in supporting the mostly critical internal agency tasks and processes.

62. The intention of the maturity model is to balance the value outcomes with the effectiveness of the management of ICT inputs, including costs. This includes:

- ICT Management and Governance: maturity and effectiveness of the internal processes employed to deliver value.

- ICT Performance: the maturity of internal processes in measuring and achieving effective and efficient ICT support.
- ICT Costs: the maturity of cost measurement and containment.

63. In detail, the Maturity Evaluation Model appraises the level of agencies' maturity in terms of Public Value Maturity (public value importance, public value performance, public value ICT contribution and public value maturity) and in terms of services and processes maturity (maturity of services provided to citizens, maturity of services provided to the staff, maturity of ICT management and maturity of the ICT management process). The model aims at providing a public value assessment for the portfolio of the 21 agencies of the federal public administrations. The measurement combines fourteen aspects of public value (*i.e.* return on investment, reducing the cost of doing business, reduced cost per transaction, advertising positive/negative messages, inclusion, political image-public trust, reducing the digital divide, increased citizens satisfaction, competitiveness, operational efficiency, quality of services received, time saved for citizens, accountability, compliance with institutional mission) and the total maturity is then broken into the following four categories of public value: Direct Citizen Value Index, Social Value Index, Citizen Financial Benefits Index, Political Value Index.

64. The preliminary data on agencies' performance seem to show that the financial aspects (*e.g.* ROI) and cost reduction are the least well-performed aspects of public value performance, whereas the services and compliance are the highest well-performed aspect of public value and the same observations apply to the ICT contribution to public value).

65. With regard to the assessment of public value for services delivered to citizens and to the internal staff of agencies and maturity processes, preliminary results seem to indicate that the overall maturity (including the effectiveness index, the efficiency index, the service cost index) of the services provided to the staff is assessed higher than the maturity of those provided to the citizens. For both categories efficiency and costs are weaker than effectiveness.

66. A very interesting aspect of the evaluation model is the assessment of the maturity of ICT management which looks at the degree of management of the 30 processes currently employed by the agencies, as defined by the MAAGTIC. The aspects considered are: governance, organisation and strategy, execution and delivery and support. The overall ICT management profile seems to indicate that maturity level is fairly high and of all the components the "governance process" (*i.e.* establishment of the governance model, ICT strategic planning, determination of technological leadership, managing ICT assessment, ICT risk management) seems to be the lowest.

67. Additionally, The Digital Government Unit (UGD) of the Ministry of Public Function Administration (SFP) for the past three years (2007, 2008 and 2009) has measured the national degree of maturity of Digital Government through the compilation of a questionnaire by an average of two-hundred public entities and agencies of the Federal Public Administration (APF). This questionnaire was adapted and developed based on the methodology of METER (the measurement and evaluation tool for the preparation of electronic government for its acronym in English), a policy advisory tool developed by the United Nations Department of economic and Social Affairs.²²

Table 1. Digital maturity of the Mexican Public Administration

Year	Indicator of E-Government Maturity within the
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federal Public Administration	
2007	6.19
2008	6.77
2009	7.01

Source: OECD, derived from documents provided by the Ministry of Public Administration

68. In a context where the Mexican government, as all other OECD countries, is asked to efficiently use resources, produce results and prove them the Mexican authorities' active use of indicators is a very good sign of the government's proactive attitude in assessing and measuring progresses. The indicators should help to combat all the elements that inhibit the further development of e-government (*e.g.* discretionarily, digital divide from both the technological and cultural perspectives, high costs).

3. Strategic development of e-government

69. The paragraphs below highlight the main characteristics of the various strategic documents which aim to foster and improve the use of ICTs in Mexico.

3.1 The Digital Government Agenda

70. Co-ordinated by the Ministry of Public Administration, the Digital Government Agenda (AGD) sets out general strategies to promote the optimal use of information and communication technologies for more efficient government management, to provide the highest quality of public services and opportunity to citizens, to increase transparency to the public at all levels of government and combat corrupted practices within of Federal Public Administration. It aims to build the Chief Information Officers' capacity, to enhance the strategic planning in public institutions, and to further sustain the national development of e-government. In turn, this will facilitate the co-ordination of the various stakeholders involved in the use of the ICT at the national level, *i.e.* various agencies of the public administration, industry, academia, unions, and society in general. The Digital Government Agenda's development involved the participation of various stakeholders (*i.e.* the CIDGE, academia, industry and some experts).

71. Mexico recognises that the first task of government CIOs consists of understanding the logic that surrounds tasks related to public and common goods that their institution is in charge of, and that may correspond to the following dimensions: constructing, protecting and distributing public goods. As indicated earlier in this chapter, from this perspective, e-government is conceived by the Mexican government as "The use of ICT to foster construction, protection and distribution of common and public goods". As such, the Mexican e-government strategy (the Digital Government Agenda) is based on the following pillars:

1. Enhancing public institutions' capacity through improvements in operational efficiency to support construction and protection of public and common goods.
2. Improving access to public and common goods by reducing transaction costs between government and the citizen.

72. As indicated previously in this chapter, upon on a recent visionary and conceptual change, which is based on the acceptance of several sets of information as public goods (*e.g.* civil and property registers, national statistics, criminal, justice and education records), the Digital Government Agenda was modified to also include a third pillar:

3. Building the information structures that can be constituted into information public goods or “Infostructure” as well as making these structures interoperable.²³

73. The Agenda is expected to be used strategically by the heads of ICT (*i.e.* CIO) of the federal public administration to increase operational efficiency and produce value for the citizens. The Agenda has the specific purposes of raising the digital maturity of institutions, reducing the digital divide that currently exists between some institutions of the federal public administration, enhancing ICT management through a better regulatory framework and conceiving, planning and executing projects based on technological innovation and adoption of best practices.

74. The agenda places the citizens at the centre and its aim is to promote greater efficiency and effectiveness in government by further intensifying the integration of digital processes and procedures through the use of ICTs, particularly the Internet. Higher integration and automation of services is expected to reduce users’ transaction costs. The components identified by the agenda to support e-government development are grouped into six fundamental levels, including the delivery of government services from their creation to the use.

75. The six levels cover three areas: internal government operations, single point of access/window and users.

76. The first level includes the National Development Plan 2007-2012, the Sectoral Programs and the Special Programme to improve the management of the federal public administration 2008-2012, which establishes the strategic vision that enables to set the objectives of the national e-government agenda. The first level also includes the participation of the sub-national levels of government (states and municipalities) through their respective strategies of e-government aligned to the state and municipal development plans to increase the operational efficiency of the government as well as the efficiency of service delivery.

77. The second level includes the human resources that are responsible for the deployment, maintenance and management of the governmental technological infrastructure. The third level covers the reorganisation of the governmental processes which includes the reengineering of processes, the identification and elimination of duplicative processes, and the automation of processes. These activities aim to enable the development and delivery of electronic procedures and services with a high impact on citizens in areas such as health, education and employment. The fourth level focuses on the digital processes and services which have been automated and which make an intensive use of ICTs to make the governmental processes more efficient. One of the objectives of the Digital Government Agenda is to increase the number of digitised procedures and services for which the higher integration within the public administration will be necessary.

78. The fifth level focuses on the multi-channel service delivery that looks at all contact points through which the users may access the list of governmental procedures and services provided by the government. The model foresees the development of additional access channels to the Internet (*e.g.* further development of kiosks, m-government, and reinforcement of call centres, physical points of access, to be improved through the use of ICTs for an improved and more effective provision of services to the citizens). The sixth level of the agenda of e-government deals with the business and citizens that are the users and main beneficiaries of the digital services. The objective is indeed to use the ICTs to improve the quality of responsiveness of the services provided and to offer direct incentives for the use of the Internet. Hence, public policies aim to provide incentives which are not provided by the market and the increase of digital processes and services and the strengthened operational efficiency should boost e-government.

79. The Agenda foresees the use of indicators to measure the performance and level of users' satisfaction for each of the levels. The agenda takes into account the interoperability of levels one and four as well across levels of government (*i.e.* federal, state, municipalities).

3.1.1 The lines of action of the Digital Government Agenda

80. Part of the first level of the model, the e-government strategy for the federal level of government includes the strategies, lines of action and policies, processes and projects – to be planned and implemented by the various entities of the public administration at the federal level which have specific roles related to the use of the ICTs – that should allow to achieve the strategic objectives.

81. The lines of action of the Agenda are:

- to optimise the use of ICTs to enhance the operational efficiency of the government.
- to conceive, plan and execute projects and strategic processes of the federal government through the technological innovation and best practices. Furthermore, the Agenda conceives the innovation as a platform for the transformation of the government that ensures the alignment of government's performance with citizens' expectations. This implies ensuring that the development of digital processes and systems be aligned with the government's strategic objectives; the standardisation of processes; the establishment of a knowledge base that facilitates the access to and exchange of best practices; the evaluation, assessment and execution of the best practices.
- to increase the maturity level of e-government.
- to ensure the revision and update of the legal and regulatory framework to support the correct deployment and management of ICTs.
- to promote the digitisation of the governmental procedures and services to make citizens' access to public services more efficient, effective and less costly (*e.g.* through the development of integrated and automated services, enabling electronic payments, promoting the integration of services across levels of government, promoting the generalised use of FEA and of RUPA, fostering the homologation of government's portals, improving the level of citizens' satisfaction with e-government services).
- to strengthen the responsibilities and competencies of the main responsible stakeholders in the ICTs areas to reinforce their strategic role (*e.g.* integrate ICTs areas, define the structures and functions in the ICTs area, reinforce the capacities).
- to promote the development of e-government by strengthening the linkage with the governments and organisations at the national and international level, with the industry and with the academia.

82. The strategy envisages the need to ensure the integration of the efforts made by all levels of government to create synergies and obtain better results in terms of e-government. Compranet, Tramitanet, FEA and RUPA are examples of transversal e-government services where the states and municipalities can also participate and which can lead to considerable savings in terms of time and financial and human resources. These are excellent examples that could be replicated as they sustain further integration and interoperability of systems as well as stronger co-ordination. The collaboration between the federal government and the local authorities becomes crucial in order to achieve a real

integration of efforts, to produce a real benefit for the citizens, and to ensure an overall more balanced e-government development.

83. The interaction and consultation with the industry, as foreseen by the Agenda, and in line with the current trend, is implemented through the Consultative Group, which includes 19 members²⁴ operational within the framework of the CIDGE to ensure a wider and more effective exchange and co-operation with a number of players.

84. For instance, in recognition of the key role the industry plays *vis-à-vis* the development of e-government the exchange is ensured by the participation of the organisations representing the industry: the Mexican Association of ICT Industry (AMITI), The National Chamber of Industry, Electronic Telecommunications and Informatics (CANIETI), the Mexican Institute for Competitiveness (IMCO) and the Foundation Digital Mexico (FMD).²⁵

85. Additionally, AMITI, CANIETI and FMD formulated the strategic document “Vision Mexico 2020”, which is based on the idea that the national competitiveness should be boosted as a result of the innovative adoption and use of ICTs with the aim to provide an impulse to the Information Society. Hence, this initiative seeks to promote the adoption of information and communication technology to transform Mexico into a knowledge society where industry, academia, civil society and the government interact to co-ordinate actions on a single digital agenda. The overall aim is to reduce the profound differences that still exist in Mexico, not only in terms of ICT penetration and acquisition, but also with regards to the adoption of information and communication technologies among citizens and business.

86. The vision aims in fact to further sustain the development of Mexico in order to place the country among the twenty most competitive countries in the world by 2020. Therefore, early, strategic and consistent adoption of ICTs is seen as a national priority for the government of Mexico in order to achieve the result of having the country among the twenty most competitive countries in the world and to combat poverty in a targeted manner (*e.g.* to have an increasing population with at least secondary education, fight crime efficiently, provide health care to all Mexicans, offer better employment opportunities and increased labor mobility).

87. By 2020, Mexico is expected to be a republic connected through the use of ICTs, which will have focused all the efforts to reach levels of productivity among the 20 highest in the world and to improve citizens’ life. It is indeed expected to be a country in which individuals participate in making economic, social and political decisions, and where governments will work in more innovative and efficient ways. The country based its strategy on collaboration and continuous organisational learning.

88. The document foresees initiatives that coincide completely with those of the government. Among the proposals, the following should be highlighted: increase the use of ICTs to enhance the national productivity, the national connectivity, increase the citizens’ participation in the decision making process in social, economic, political and cultural areas, develop key capabilities of the public companies, offer cutting-edge digital public services capable also to reduce the digital exclusion of part of the population.

89. Finally, the Agenda foresees the increased participation of the academia in a double role as educator and as investigator. Academia is indeed expected to assist the government in identifying and analysing the new challenges faced by the Mexican society as a result of the increased use of ICTs and to sustain the government in the development of the society’s digital skills to ensure an increase in the use of the services digitally provided.

3.1.2 The Strategic Information and Communication technology Plans (PETIC)

90. In 2006, at the beginning of its administration, the Federal Government issued an austerity decree, in which specific guidelines, namely No. 31 of 'ICT provisions', states that ICT projects and plans should be submitted to the Digital Government Unit during the first two months of each fiscal year. Thus, from 2007, the agencies of the Federal Public Administration report their Strategic Plans and Programs of Information and Communications Technology (PETIC) to the Digital Government Unit. The latest data is shown in the following table:

Table 2. Agencies' reporting to the PETIC

Year	Number of reporting agencies and entities
2007	173
2008	181
2009	194
2010	250

Source: Government of Mexico.

91. During January and February 2010 through the Description of the Strategic Information and Communication Technology Plans (PETIC) of 250 departments and agencies of the public administration at the federal level, more than 1 400 projects were reported, of which about 345 include improvement actions that impact the efficiency of government.

92. The information on PETIC is contained in a software tool used to manage the ICT strategic plans by theme: hardware, software, communications, administration and operation. The PETIC exemplifies a concrete action taken by the government of Mexico to foster efficiency in the public sector by avoiding duplication, rationalising the use of public resources and boosting integration while developing new ICT systems. PETIC can indeed help standardising ICTs to maximise the usefulness of existing or new contracts and/or purchases, and allow securing the interoperability and integration of different systems and databases.

3.2 The Digital Agenda of the National System e-México 2010-2015

93. The development of the Information Society requires that each of the players from the public, private, social and academic sectors participate in its establishment to ensure connectivity, business education and training, technology vision, promotion of digital skills and a better overall digital environment. Sponsor, municipalities, states and federal government are all involved in these targets' development.

94. In this sense, there have been important efforts to define a National Digital Agenda in Mexico and to ensure co-ordination of Ministries' actions to increase the use, and spread the benefits, of the ICT within the framework of the Digital Agenda e-Mexico, which was initially adopted based on the National Development Plan 2001-2006.²⁶

95. The Digital Agenda e-Mexico focuses on integrating and guiding efforts to further develop the Information Society in Mexico in order to pave the way to universal access to the society of information and knowledge, as well as to decrease the digital divide through: *i*) connectivity; *ii*) access, *iii*) digital inclusion. The Ministry of Communications and Transportation (*Secretaría de Comunicaciones y Transportes*, (SCT)) is in charge of the promotion and co-ordination of the Digital

Agenda e-Mexico through the Co-ordination of the Information Society and Knowledge Unit (*Coordinacion de la Sociedad de la Informacion y el Conocimiento, (CSIC)*).

96. The Trust Fund “Fideicomiso e-Mexico” established in 2002 aims to support the Federal Government in establishing a national system e-Mexico, which has the above mentioned Agenda as a main framework of reference. The final purpose is to ensure that the service coverage is available to most Mexicans, improve quality and expand the range of government services, support economic development through the promotion of small and medium enterprises and the elimination of long chains of intermediaries, establish an appropriate regulatory mechanism for the performance of the system itself, provide new options for access to education and training that encourage learning as a means for the development, develop relevant content (e.g. education, health, trade, tourisms, public services) to promote better living conditions and create new economic and work opportunities for all the communities in order to promote an accelerated and more equitable development. Respecting the identity and cultural environment, making the system not a burden cost to the State and socially profitable, providing access to tele-health services and the content of health which will improve the level of the welfare population, integrating the various actors involved in health care are also part of the objectives. The Trust Fund also makes reference to the Article 50 of the Federal Telecommunications Act which states, inter alia, that the Ministry of Communications and Transport will seek the proper provision of telecommunications services throughout the national territory, in order to secure the access of the production units and of the general population to public telecommunications networks and social services,

97. The Mexican Congress, the Federal Government and the Private Sector are currently working toward the further implementation of the Digital Agenda e-Mexico - based on the vision established in the National Development Plan 2007-2012 - that considers the use and implementation of Information Technologies in Mexico crucial to foster the competitiveness, as it offers opportunities for personal development by enabling greater access to information, significant medical advances, greater efficiency in productive and governmental processes, higher production of goods and services in every sector of the economic activity.

98. Once broader, the scope of the system e-Mexico has been reduced and is now focused on increasing digital inclusion in Mexico. Its overall purpose is to trigger national mobilisation to co-ordinate actions among the various levels of government, businesses and industry, public organisations, academic institutions and civil society organisations to align the various efforts and generate efficiently and effectively the transition to the information society. The development of the 6 500 digital community centres is also part of the strategy that supports the e-Mexico system. The centres are single points of institutional access to services where citizens can also access the Internet, as well as training opportunities. They are located in points of particular need and are managed by the civil society, particular by young people, who receive appropriate training.

99. By the end of 2012, the goal is to have 24 200 Digital Community Centres in the whole country; to reach a level of internet penetration covering at least 60% of the population, to have 70 million Mexicans using the Internet, to strengthen the use of the ICT and develop relevant content. As highlighted in the section on the e-government context of this chapter, the number of internet users in Mexico is still low. Enhancing connectivity, developing relevant content and facilitating the access to, and integration of, relevant content through the e-Mexico portal will increase the e- readiness of Mexican society and the possibility for people to access relevant content and on line services, perform procedures and transaction, thus benefitting at the most of the opportunities brought about by the information technology.

100. The identification of the more vulnerable groups to design specific trainings and develop needed skills (*e.g.* for students, educators) could help addressing the problem by generating a change in the educational approach and a real impact on the society. Good examples in this sense exist at the local level, which could be easily replicated in other parts of the country, *i.e.* the City of Juarez initiated the “National Inclusion Campaign” which envisages the involvement of about 300 000 university students that shall work with the city administration to increase the level of digitisation of the society. According to the “Trust Fund”, the e-Mexico system has a financial mechanism to fund projects over a certain number of years. The mechanism can be used to finance projects for which the ministries do not have a budget. There is no organic structure supporting the enabling of the system which is therefore the result of the informal co-ordination among the various actors.

101. The idea behind the reorganisation of the co-ordination structure was to generate a flexible mechanism based on the collaboration of the many players, *i.e.* a mechanism of intergovernmental and inter-institutional co-ordination. As a result, the functioning of the system depends greatly on the people working in the single agencies. Although from one point of view the sharpening of the focus of e-Mexico is seen to be an important move towards achieving greater clarity, the subsequent rearranging of the governance framework seems to have weakened the support of the national political leadership.

3.2.1 E-Government and the Digital Agenda of the National System e-México

102. With specific relevance to e-government, the Agenda Digital of the National System e-México indicates that information should be accessible to all citizens. An open government policy must necessarily be accompanied by sufficient guarantees to leverage and facilitate the use of ICT in administrative procedures and formalities²⁷, in the provision of public data²⁸, as well as for the civil society’s access to public officials’ acts²⁹ to reinforce the basis of public trust.

103. In this regard a very good example is the advanced electronic signature (FIEL) that enables to:

- obtain information automatically from your last statement, providing your RFC and password of your statement;
- connect secure (SSL) for the capture and shipping statement;
- retrieve your password for accessing your statement using your Advanced Electronic Signature;
- retrieve your password through your e-mail you registered for your last statement or just providing your name and last name.

104. This will:

- progress more efficient and transparent areas of government activity: security public health services, education, culture, management and use of public funds, generating greater confidence society and achieving greater levels of competitiveness;
- facilitate access to information;
- inform citizens about their basic digital rights;

- users need to have the right to control their personal data;
- recognise the right to access to information;
- support the further development of e-commerce, encourage online filing of tax returns, encourage the use of electronic signatures and digital certificates, provide virtual notifications and electronic payments.

105. In relation to e-government, the Agenda Digital of the National System e-Mexico foresees also the need to:

- improve internal operations, improve intergovernmental collaboration and establish guidelines to allow validation of platforms providing on-line procedures that facilitate users to access services and create uniformity in the public portals.
- establish organisational structures to monitor and regulate use and development of ICT in administrative procedures, provision of online public services, the procurement of goods and services and public works contracts, etc. processes.
- develop further "Justice Online" either through administrative agencies (*e.g.* labour, tax, agricultural) or courts.
- strengthen the use of ICTs between the public and private, civil associations and academic institutions.

3.3 The digital economy strategy

106. The Ministry of Industry and Trade through the Directorate General of Domestic Trade and Digital Economy (DGCI) has the authority to develop the Digital Economy in the Mexico. This indicates the empowerment of business processes such as production, marketing, procurement, among others, through the use and exploitation of Information and Communication Technologies, which have a positive impact on society, enterprises, services and consumers.

107. The purpose is to raise the country's competitiveness and achieve the targeted objectives by promoting the use and exploitation of Information Technology (IT) in economic sectors, the promotion of increased production of IT products and services of high quality, and through the enabling, measuring and diffusion of the Digital Economy in the country.

108. The main targeted goals are:

- the reduction of the digital divide in the business environment.
- the increase of the international competitiveness of the Mexican IT industry.
- the increase of the academic careers in ICTs being the mostly demanded.
- the development by the Mexican ICT businesses of world class services and products.
- the increase of e-commerce.

- the integration of economic sectors companies' business process applications through information technologies.
- the development of modern legislation to allow a rapid and proper development of the Digital Economy.

109. To achieve the above the Digital Economy Strategy envisages the following:

- to promote the technological development.
- to integrate ICT in the business processes.
- to further develop e-commerce.
- to measure the development of the digital economy.
- to increase the capacities of business and consumers.
- to diffuse the benefits of the digital economy.

110. To ensure the good governance of the process described in the previous paragraphs, the Committee for ICT Standardisation was established, which gathers representatives from the private sector, civil associations, unions and government representatives.

4. Main e-government projects and initiatives

111. This section describes the key features and the rationale behind the main e-government initiatives and/or projects. The paragraphs below highlight the main projects where the government has invested the resources with the aim to support the objective to improve regulation, management, processes and results of the federal civil service to meet the needs of citizens regarding the provision of public goods and services; and to execute the strategy that focuses on raising standards of government efficiency and effectiveness through systematisation and digitisation of all administrative procedures and the use of information technology and communications to support improved public management.

Info-structure projects

112. The Mexican government considers some databases and public registers as key elements of the national "infostructure". Aware of the importance of the latter to achieve real integration of processes, boost interoperability and thus produce higher value and improve service delivery, the Mexican government has invested resources, and made considerable efforts, to plan and implement a good number of key "infostructure" projects. Key elements are:

- Identity and civil registry databases. (Social rights)
- Property databases. (Economic rights)
- Criminal records. (Justice and public security)
- Educational records (Capacity building)

- Regulatory inventories (Transparency)
- Health records (Public health)

Table 3. Key info-structure projects

Project	Status
National Population Registry	Completed (more than a million certified records)
National Population Registry Biometrics and ID card emission	Under implementation
Property databases	Planning stage
Plataforma Mexico (criminal records)	Advanced Implementation
Educational records	Final planning stage
Regulatory inventories	Completed
Electronic medical file	Under implementation
Advanced Digital signature (FIEL)	Completed (55 million tax reports were filed and signed in 2010)
Advanced Digital Signature Law	Approval by congress expected in 2011
Mobile phone registry	Completed (68 million records linked to national population registry, built entirely via digital means).

Source: Government of Mexico.

113. In the view of the Mexican government the citizen's portal should constitute the skeleton on which to build the public administration's interoperability and the single point of access to all public services.

Citizen Portal (www.gob.mx)

114. With the purpose to further develop the procedures and electronic government services the Government has lately reinforced its efforts to revamp the Citizen Portal.

115. Developed by the Federal Government, the Citizen Portal (*www.gob.mx*) has established itself as the primary means of online access (24 hours a day, seven days a week) to the formalities and government services on greater demand.

Box 4. Evolution of the citizens' portal

2002. The Federal Government Citizens Portal was created as a single window to the complete catalog of procedures, services and content of the Federal Public Administration.

2005. The Citizen Portal receives the "Stockholm Challenge Award 2004" in recognition of its innovative approach consisting in the introduction of the access to the procedures, services and content of the federal government via a single-window mode, in addition to organising the content according to the citizens' thinking and not according to the government structure.

2006. According to public feedback (ACSI) as well as following the best practices worldwide, the navigation of the Citizen Portal was revolutionised grouping procedures, services and content in four major categories (Citizens, Businesses, Foreign and Public).

2007-2009. The last evolution of citizen portal brought a change in its "look and feel", improved the navigation, added the fifth channel (tourism) and optimised the search engine.

2010-2012. The new developments of the portal envisage an advanced search-model with semantic components; make the interface more simple and intuitive; introduction of the use of an algorithm to trace preferences.

Source: OECD, from documentation provided by the Government of Mexico.

116. The portal is being transformed with the intention to make it a portal for citizens. The idea is that it shall facilitate citizens' access to public services and content distribution as opposed to being mainly a portal for the government. Expectations are that the portal should enable user personalisation through the possibility of setting-up a personal account; and should allow the access to public digital services and transactions with a single authentication thanks to the cloud of services³⁰. Data shows³¹ that, as of June 2010, the Citizen Portal included 72 fully digitised procedures and services, more than four thousand informative procedures and various informational content of the federal public administration, organised and grouped by topic and subtopic. It also comprises a search engine to facilitate the location of the information and/or service location. The Citizen Portal averaged 1.4 million monthly visits between January and June 2010 and received a score of 62/100 points in the American Customer Satisfaction Index Customer (ACSI).³² The new citizen portal will transcend the change of administration in 2012, and the citizens' portal certainly presents a huge potential to support enhanced interoperability. To this end, the Digital Signature Initiative sent to the Congress by the President at the end of 2010, mentioned earlier in this chapter, is a very important initiative indicating the intention to tackle some of the issues mentioned above and to use the new citizens' portal to foster the use of the advanced digital signature (FIEL). The plan of the Government is indeed to expand the number of services for which the citizens can use the digital signature even on the portal, with the ultimate goal of enabling citizens to do everything with the same digital certificate.

117. In fact, the current services, and areas, for which citizens can use the advanced digital signature (FIEL) are few (*e.g.* integrate the taxation system with the digital signature with biometrics). This is a common issue faced by most OECD member countries which have developed sophisticated digital signature, and e-ID management, systems without being able to offer a rich portfolio of services where the tool can actually be used.

118. The FIEL was developed by the Tax Administration Service (SAT³³), which embeds the system to take fingerprints, and cannot be used for some public registries, *e.g.* some managed by the Ministries of Economy and of Public Administration use a different system. Once approved SAT's

advanced digital signature will become one across the country, the ministry of Economy and the Ministry of Public Administration have agreed to establish SAT's solution as the sole advanced digital signature for Mexico. It will also become an information public good given that it will have no cost and it will be available for citizen to citizen transactions. From this perspective, it is seen as a milestone of the digital economy development in Mexico. This will enable to tackle some of the concerns expressed by some of the interviewees, who suggested the two systems should be unified and more incentives and opportunities could be created to foster the use of FIE, e.g. linking the FIEL to the RUPA to enhance the interoperability of the two systems.

119. Moving ahead in this sense implies a clear visionary direction, more collaboration among the entities and ministries involved; and some changes in the legal framework (e.g. the electronic document is not recognised yet so that the notary that releases a certificate, for instance, shall print and sign it for it to have full legal validity). More information on the project aimed at renewing Mexico's citizen portal can be found later in this chapter.

Federal Inventory of Systems

120. The Federal Inventory of Systems is a database containing the information systems in each institution of the federal public administration. The objective of this system is to leverage existing applications to accelerate automation process by enabling the transfer of applications, the sharing of experiences and success stories between agencies, to avoid duplication of efforts and investments.

121. From April to September 2009, 194 institutions submitted information on their applications to the Ministry of Public Administration. From September to February 2010, the Ministry of Public Administration developed the web enabled database with all information on the systems which can be easily consulted and updated online. On 29 April 2010, the Inventory became officially operational and on 13 July 2010, with its publication in the Official Gazette, the MAAGTIC provided for the mandatory use of the new application.

122. The current data show that there are 4 895 information systems operational in 194 public institutions, 86 registered users in 70 institutions, and 110 institutions which do not use the application. The next step implies the identification of a person responsible within the institutions that do not use the system yet. Identifying the person responsible for providing the data within the agencies that have not used the system yet will be crucial to maintain the accuracy, integrity and availability of the information.

123. The inventory, which can be consulted on line (<http://aplicaciones.cidge.gob.mx>), is a very important initiative which exemplifies the political commitment of the government of Mexico to rationalise the use of resources and development of IT systems within the public sector to achieve stronger integration and thus foster greater internal efficiencies and facilitate the delivery of more sophisticated services.

124. The more immediate, and short-term impact, of an inventory system is to support a better integration and rationalisation of systems within the public sector. However, it is important to underline the relevance of potential long terms impact revolving around the fact that it can create a baseline to spot new opportunities for systemic change, e.g. transform processes, renovate business models and strive for a broader goal while developing IT applications within the public sector to lead its excellence performance and service delivery.

125. It may indeed foster the development of an overall IT system that effectively links all modes of processes and procedures management, service delivery and offers performance measures across all

agencies and bodies within the public administration at the federal level. As a result, it can have an important impact in improving the delivery of services, identifying efficiencies, enhancing productivity, and providing savings to taxpayers.

126. Maintaining the IT System Inventory across the federal public administration involves co-ordination and collaboration of various business and functional IT areas. It is essential to all ministries, and related agencies, to keep an accurate and current inventory of systems. A single comprehensive IT Systems Inventory eliminates issues with maintenance of multiple sources and allows organisations to extract subsets of data based on their reporting and management requirements.

The Electronic Government Procurement System (CompraNet)

127. The Electronic Government Procurement System (CompraNet) is the central system established as part of the reform of the procurement laws in 2009, which is intended to enable innovations in the mechanisms of procurement of goods, services, leasing and public works carried out with federal resources, and to strengthen the budget and accounting system in the different components contributing to increase transparency in the procurement process of the government.

128. Mexico has a national annual budget of 3.1 billion pesos and an annual total amount of governmental purchases of 1.5 billions of pesos, *i.e.* roughly half of the budget. Data shows³⁴ that from January to May 2010, CompraNet recorded 23 953 public procurement procedures for a total transaction amount of 209 847 million pesos. These figures show a decrease of 23.9% in the number of related procedures registration recorded in the same period in 2009 and a 43.8% increase in the financial amount of transactions. The reduction in the number of procedures is explained by the increase in competitive bidding to reduce the invitation to at least three suppliers and by the process of direct awards. By type of procurement procedure 82.1% of amounts was realised through public bidding, 16.8% through direct awards and 1.1% by invitation sent to at least three suppliers.

129. In June 2010, the version 5.0 of CompraNet was released. The new version of CompraNet seeks to promote savings and enhance the efficiency of public expenditures. With the new system, the Mexican government expects indeed to achieve savings up to 10% or 15% of the public spending in procurement, services and public works.³⁵ As a result, financial resources can be freed-up to be invested in programs of higher impact such as those related to social services and infrastructure development.

130. As an example, the government estimates that the 1% savings (*i.e.* 10 000 millions of pesos) could equal:

- 15 housing units of 192 apartments each.
- 25 centres and houses of culture.
- 32 sewage plants.
- 2 000 cargo vehicles.
- 20 Units of General Practitioners and 10 general hospitals.
- 50 000 Personal Computers.
- 15 public libraries.

- 60 bridges.
- 40 schools of technological education.
- 35 km of electronic transmission lines of 400kV power.
- 300 km of roads and 2 lane roads.

131. The new system shall also help to improve the quality of the supply management departments and agencies, to strengthen transparency and accountability, and to favour the use of electronic procurement. There are interesting purchases examples, medical equipment at IMSS, that show significant reductions of prices.

132. The new version of CompraNet establishes the Single Register of Suppliers and Contractors and a single classifier for goods and services for procurement. Additionally, the new version converts the system into a transactional system which will enable to carry out, among other things, full electronic procurement procedures, to organise and classify historical information of the procedures for monitoring and evaluation purposes, and to receive agile quotes online.

133. The new procurement law related to the new procurement system includes new procurement procedures such as reverse auction.³⁶ Reverse auctions may enable to obtain more favourable pricing, reduce cycle times, and lower overall supply costs. As a result, they can lead to substantial savings. Apparently, the authorities at the local government level welcomed the deployment of the fully transactional system. In fact, even though the use is for the time begin compulsory only at the federal level a large number of the states and the municipalities also use it to promote higher transparency of their operations.

Box 5. Italian E-Procurement Platform

In February 2011, Consip, the central purchasing body of Italian Public Administrations, launched the new edition of *www.acquistinretepa.it*, the national e-procurement platform for the purchasing of public goods and services that Consip operates on behalf of the Ministry of Economy and Finance. With the new platform the new government aims to increase the overall efficiency and performance as the platform has been completely revamped and enriched with new and more advanced functionalities.

The major innovations of the newly launched platform are:

- A comprehensive coverage of e-procurement functionalities (end-to-end platform);
- a more tailor-made system that provides customised responses to specific and additional users' needs (both buyers and sellers), and allows for the creation of a 'personal area' for each user;
- single and integrated e-catalogue - the platform allows to carry out all the e-procurement tools introduced by the EU Directive 18/2004/EC (*i.e.* framework agreements, dynamic purchasing systems, e-marketplaces, e-auctions). In order to make it easier for the buyer, the platform has a unique catalogue in which the user can search for products, compare quality and cost, compare bids and store all the research activity carried out;
- the provision of two simplified ways of buying (direct order from the e-catalogue or request for quotations for more customised bids) and a single shopping cart;
- a more advanced search engine to easily spot the most appropriate and suitable product or service;
- a more effective and efficient support to all users through online assistance, videos and clips to guide the user during the different procurement phases and a dedicated help desk;
- an English section.

CONSIP was awarded the **European eGovernment Awards 2009 under the category** 'eGovernment empowering business', in recognition of the fact that the platform is an instrument that facilitates the interaction with the businesses. With the newly launched platform (in Italian " *Mercato elettronico della Pubblica Amministrazione*) 1, 300, 000 products are offered which makes of it the largest European electronic market for the Public Administration.

Source: the EPractice Portal www.epractice.eu/en/news/5288547.

Single Register of Federal Public Administration's Contractors

134. The system was developed to consolidate the information from the Federal Government contractors. The guidelines for the implementation of the system form part of one of the nine manuals published in 2010, *i.e.* the audit manual (see section below for more information on the manuals).

Electronic Journals of Public Works (BeOpen)

135. This tool provides access to information and supports transparency, control and monitoring of public works projects funded with federal resources. From September 2009 to June 2010 the

following results were produced: 144 courses were held and attended by 3 403 persons belonging to 39 entities and / or dependencies. Also, 3 991 logins were effectuated and log notes rose to 59 320.

The Single Register of Accredited Persons (RUPA)³⁷

136. The Single Register of Accredited Persons (RUPA) helps reduce the time to manage procedures and services for the benefit of individuals and entities by assigning a unique and confidential identification number based on the Federal Registry of Taxpayers which qualifies legal persons, when required by public agencies or bodies.³⁸ This registry gives individuals a unique and confidential identification number to prove their legal status to the agencies and entities of the federal public administration, when required by management procedures, and governmental services. As of December 2010,³⁹ there were 315 single points of contact for registrations throughout the Mexican Republic, through which more than 7 101 applications were received and handled for business representation, mainly in the fields of automotive industry, textile, manufacturing, make-up industry, and trading.

137. The number of registries who have their ID in the RUPA 8 400 of which 650 are legal entities (these are cumulative figure since 4 July 2004 when the register became operational)⁴⁰. The trained civil servants of the federal public administration engaged in the capturing, reviewing, validation and certification of records are more than 900. The RUPA will be integrated in the citizen portal to facilitate exchange of information across the federal public administration. This is an excellent example of the Mexican government's efforts to increase interoperability.

Federal Normateca

138. This website, freely accessible to the public, publishes normative documents of general nature related to the operation and functioning of departments and agencies of the Federal Government, with the aim to increase the transparency of the governmental activities and facilitate consultation of applicable regulations.

139. Between January 1 and 31 August 2010 the following actions were taken: 755 current regulations were registered, which are classified by subject (*e.g.* main areas are transparency, budget, personal services, procurement and public works, goods and real estate).

140. Also, the automatic update service on published regulations via e-mail to a total of 27 297 subscribers and an average of 42 819 answers to queries were performed monthly. The User Satisfaction Survey of Federal Normateca - conducted through the methodology "Customer Satisfaction Index,"⁴¹ developed by the University of Michigan – indicated that in the period between September 2009 and August 2010, the satisfactory rating reached the level of 75 points on a scale of 100. The criteria considered positively in the survey by users are content, functionality, image and interactivity of the Federal Normateca.

Internal NORMATECA

141. As part of the Internal Regulatory Improvement System, based on the Program Improving Special Federal Civil Service 2008-2012 (PMG) and on the Regulatory Improvement Base Zero committed by the President of the Republic, Felipe Calderón Hinojosa, on the occasion of Third Report of the Government and with the aim to maximise the reduction and simplification of regulations at the Federal Government level, in 2009 the number of internal administrative rules was decreased in 102 Federal government institutions that have adopted Internal NORMATECA (the

regulations went from 8 867 in December 2008 to 5 499 in December 2009 and as a result 3 368 regulations were merged and eliminated).

Registry of Sanctioned Public Servants

142. The Ministry of Public Administration, in compliance with the order of the Federal Law of Administrative Responsibilities of Public Servants, established the Registry of Sanctioned Public Servants⁴² by which data on sanctions are registered and being published. This enables one to know the antecedents of public servants in the departments and agencies of the Federal Public Administration and the Attorney General's Office relating to the breach of obligations in the performance of their jobs, positions or commissions. The register may be consulted by the general public.

143. This project represents a concrete example of the government's intention to translate open government into a concrete opportunity to increase transparency and facilitate civil society's access to the information concerning public administration's activities.

Registro Unico de Vivienda (RUV)

144. Online systems also include the single national housing registry, *i.e.* *Registro Unico de Vivienda* (RUV)⁴³ available through the portal www.micasa.gob.mx.⁴⁴

145. The Register functions as a single window, *i.e.* a one-stop-shop, that enables to have a unique registration of housing supply in which private actors integrate housing information. The INFONAVIT⁴⁵ obtains the information necessary for their operation processes, the financial intermediaries obtain the information needed to support business decisions. Private and public agencies have a system of information that is sufficient, accurate and timely. The registry allows also standardising and integrating the registration processes of supply, construction progresses, quality of housing and real estate valuation in the mortgage market including the processes that involve local authorities.

146. The ultimate objective is to implement a process of registration in the housing market and verification and evaluation of quality housing that is agile, systematic, generally approved, and transparent to the financial control, and which, in turn, allows for the integration of business processes while maintaining their independence.

147. By implementing this system, the Mexican government facilitated the realisation of a number of benefits. These include the fact of supporting planning and decision making processes that are more accurate for all actors thanks to the comprehensive housing information. The system enables also to have a reliable database and updated information for housing developments, which provides for more timely promotion and management. The RUV also improves security and reduces the risk to have comprehensive information on housing. It promotes institutional synergies and eliminates redundant costs, by streamlining business processes. Finally, the RUV encourages the final consumer to provide them with information on housing supply, quality and commercial value.

Declaraner⁴⁶

148. The patrimonial declaration of public servants has its antecedents in the old Law on the Responsibilities of Officials and Employees of the Federation published in the Official Gazette on 21 February 1940, where it was established that any official or public employee, about to take up his or her assignment, should declare their real estate properties and deposits with credit institutions so that

the public prosecutor could compare the properties before and after entering and performing the aforementioned office. Also, when applicable, public servants must present the layman's tax declaration. With the creation of the Secretariat of the Comptroller General of the Federation on 29 December 1982, the Ministry of Public Administration was empowered to keep track of assets of public servants. From 1982 until 2001, the statements were filled in and delivered in paper form. With the entry into force of the Federal Law on Administrative Responsibilities of Public Servants on 13 March 2002, the Ministry of Public Service - through the Digital Government Unit - developed a software tool for the reception of public servants' assets declarations known as Declaranet.

149. In 2010, the web-enabling of the application enabled to:

- centralise the control of the versions released for production.
- ensure an efficient maintenance of the records to register the statements (mainly offices and posts).
- allow public servants' submission of statements from anywhere, without the need of installing software.
- enable the search on the returns' information provided by to the user who submitted the statement.

consult statistics and query information online.

150. The development of the latest version of Declaranet was based on a software that is iterative, architecture-centric and driven by concrete use experiences.

International Trade Single Window in Mexico

151. Under the trade facilitation initiative, the Mexican government implemented the international trade single window. The aim is to foster the implementation of the trade facilitation program to simplify import, export and transit related operations. Through the trade single window, Mexico has the purpose to increase efficiency through cost and time savings for international traders, which will have a positive impact on government costs' reduction and procedures' simplification.

152. With the implementation of the "International Trade Single Window," Mexico expects also to enable cross-border traders to submit all the required regulatory documents, such as customs declarations, import and export permits and similar types of documents, *e.g.* certificates of origin and trading invoices. With the electronic single window, traders will no longer have to deal with multiple government agencies in multiple locations in order to obtain the documents required for the clearance processes.

153. In developing the international trade single window, Mexico adopted the common definition presented by UN/CEFACT, *i.e.* "A facility that allows parties involved in trade and transport to lodge standardised information and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once."

154. The Mexican government assigned the project for the development and implementation of the Mexican Trade Single Window through a public international tender on 28 October 2010. The

single window will be implemented in three phases and all the relevant ministries and agencies that deal with cross-border trade authorisations will be involved. On 14 January 2011, President Felipe Calderón issued the decree⁴⁷ for the establishment of the trade single window by which the concerned governmental ministries and agencies are mandated to comply with the aforementioned dates by implementing and incorporating in the electronic single window all the relevant information and technology systems required.⁴⁸ The Decree also created an interagency governance body for the implementation of the single window project co-ordinated by the Ministry of the Economy.

155. By September 2011, both the General Customs Administration and the Ministry of the Economy will be operating their foreign trade procedures in the single window environment and the remaining ministries - *i.e.* the Ministries of Health, Agriculture, Environment, National Defense, Energy and Education - are expected to do the same by June 2012.

5. Maximising e-government projects' benefits

156. The richness of projects is a proof of the commitment of the Mexican government to progress in the development of e-government. As the Government looks into conceiving a new generation of e-government projects, which shall take full advantage of the opportunities provided by the new technologies, a strengthened focus on the sharing of solutions and systems would enable stronger synergies, and allow reaching higher efficiencies while avoiding efforts' duplication.

157. Furthermore, in a context where the Government is investing considerable amounts of resources to further develop ICT systems it is important that the right measures are in place to assess and show the value and benefits produced by the public investments, both in terms of processes (*e.g.* policy making, co-ordination) and results (*i.e.* delivery of goods and services).

158. In this regard, the experience of other OECD countries, such as the UK and the USA, could be inspirational for Mexico: These countries have undertaken the review of the most critical ICT – for relevance and budget – projects. The fundamental idea is to track progresses and spot underperforming systems to suspend, re-scope or re-work them. As a result, spending can be scaled-back and cuts achieved. The aim is not to eliminate projects, but rather to make them work better and faster, and to ensure they produce the expected value in order to increase efficiency and save resources. Additionally, possibilities to further increase simplification, standardisation and automation can be spotted in order to improve the overall infrastructure landscape in Government ICT.

Box 6. Saving on government IT spending and driving sustainable improvements across governments in the U.S.

Aware of the fact that for a long time many government IT projects cost hundreds of dollars more than they should, it took longer than necessary for solutions that were technologically obsolete once delivered to be deployed and delivered. In the summer of 2010, the U.S. administration reviewed 26 high priority projects that were either over budget, behind schedule or at high risk for the kinds of problems commonly plaguing large IT efforts. The review resulted in the following:

- one project was terminated entirely
- for seven projects the delivery of meaningful functionality was accelerated
- eight projects were rescoped back to increase the likelihood of successes and the budget reduced in the process

As a result, the lifecycle cost was reduced of USD 1.3 billion and the time to deliver functionalities was cut down by more than half, *i.e.* from two to three years down to an average of eight months. The review aimed to prove that the administration could improve the overall IT performance on a project-by-project basis. But even more relevant is how the overall exercise has led the administration to draw conclusions and lessons to identify the structural changes required to drive sustainable improvements across government. As a matter of fact, the results of the review were used to define some major steps that will catalyse a fundamental reform of federal IT, which is seen by the American administration as essential in improving the effectiveness and efficiency of the Federal Government. A **25 Point Implementation Plan to reform the federal IT Management** was announced, which is expected to fundamentally change how the government buys and manages IT.

Some highlights of the plan include:

- Turnaround or terminate at least one-third of underperforming projects in the IT portfolio within a timeframe of 18 months.
- Shift to “a Cloud First” policy (each agency will identify three “must move” services within a period of three months and move one of those services to the cloud within 12 months and the remaining within 18 months.
- Reduce the number of federal data centres by at least 800 by 2015.
- Only approve funding of major IT programs that: have a dedicated programme manager and fully staffed integrated programme team, use a modular approach with customer-facing functionality delivered every 6 months, use specialised IT acquisition professionals.
- Work with the Congress to: consolidate commodity, IT funding under the Agency CIOs and develop flexible budget models that align with modular development.

Source: www.whitehouse.gov/blog/2010/12/10/saving-money-government-it.

159. Such an exercise can also enable to identify weakness in the capacity to run, manage and oversee projects, and to better understand if and how projects meet the internal requirements of the public administration. Subsequently, CIOs can obtain a better insight on the specific needs and for instance also be guided in rewriting the rules for all IT acquisitions. This exercise could also make it easier to identify the best suppliers, to increase transparency and comparability, to support the G-cloud

and to create an open market for ICT software and services in Government, encouraging the re-use as well as the compliance and higher involvement of SMEs.

160. Additionally, in relation to the need to ensure an effective and efficient projects' implementation another aspect raised by a number of stakeholders during the interviewees that is worth attention, concerns the funding mechanisms and the need to ensure that the right skills are in place for the selection and approval of ICT projects.

161. In the interviewees' view the fact that each Ministry has its own ICT budget creates some barriers to the efficient and effective management of the recourses available for e-government in Mexico. Prior to the 2006 austerity decree the ICT budget was more fragmented than it is now. It was indeed more dispersed throughout public institutions, where small parts of the budget were assigned to each business unit. The austerity decree has improved the situation by concentrating budgets at the ICT units within every Ministry.

162. Even though the above enables the flexibility and agility needed to develop and finance individual e-government projects in areas under the responsibility of specific ministries, it can lead to some budgetary rigidity for the funding of government-wide projects and prevent shared funding arrangements. As indicated earlier in this chapter, funding mechanism can play a pivotal role in hindering or facilitating co-ordination within and across levels of government in relation to specific projects and initiatives.

163. A budgetary framework that accounts for the shared responsibility inherent in many e-government projects is crucial to sustain an efficient implementation of e-government. As an example, it can help avoiding the duplication of systems or the deployment of redundant ones in public agencies, it can facilitate the measuring of the overall costs of developing new systems, and it can improve the monitoring of transversal benefits. In the longer run, it can provide the basis to develop new funding cases, and can sustain the overall efforts of the Mexican government to enhance interoperability and increase co-ordination at the federal government level.

164. Keeping operational budgets within the ministries and, when applicable, making use of the new procurement law that allows for general contracts to be established for homogenous goods could be an option. Additionally, in order to remove existing budgetary barriers, and to establish a framework enabling an efficient allocation of public resources to sustain smart, flexible and accountable investment decision, in the full respect of the national practices and tradition, the Mexican government could consider the possibility of creating an ICT fund aimed to support the development of government wide projects, or joint projects. This could support the adoption of strategic decisions and choices and foster the development of strategic cross-governmental projects, thus benefitting the improved internal management of resources and supporting the delivery of integrated services.

Box 7. Danish Fund for Innovative Projects Nationwide

The Danish Fund for Assistive Technology, *i.e.* the PWT Foundation (DKK 3 billion for the period 2009-15), previously known as the ABT fund, aims at co-financing investments in projects that seek to employ new technology and innovative ways of working and structuring organisations. 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 20185 in labour saving solutions (*e.g.* telemedicine, e-government, robot technology and automation, technologies use to improve the social care sector, as well as working procedures). There are various reasons behind the Danish government's decision to focus on the use of labour saving technologies in the public sector. Denmark is facing the same demographic challenge of ageing population 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. Additionally, the Danes have increasingly higher expectations regarding the quality of the public services provided. Finally, the government is fully aware of its need to adopt new solutions to maintain the current level of public service provision to citizens and businesses. The rationale behind the Fund 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 to convince Local Government Denmark or Danish Regions that ideas are good and should be implemented nationwide.

Source: OECD (2010), OECD e-Government Studies. Denmark: Efficient e-Government for Smarter Public Service Delivery, OECD, Paris.

165. Finally, according to some of the stakeholders from various parts of the federal public administration interviewed in July 2010 the fact that decision on projects' approval are taken by the "Grupo Directivo", which does not always seem to have the right "e" competencies, may be factors that limit the maximisation of governments' efforts in the ICT area.

Box 8. The Australian “Gateway Review Process”

The Gateway is a review process at key decision points (referred to as “Gates”) that focuses on the key 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 22 March 2011).

Box 9. 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. 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.

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 22 March 2011).

6. Reduction of administrative and substantive internal regulations

6.1 Manual Administrativo de Aplicación General en Materia de Tecnologías de la Información y Comunicaciones (MAAGTIC)

166. On 2 September 2009, within the framework of the Third State of the Union, President Felipe Calderon committed to undertake a wide-ranging regulatory reform in order to make citizens' life easier, to increase competitiveness and facilitate economic and social development. As part of this effort, with respect to the internal administrative measures, the Ministry of Public Administration launched a strategy to simplify and standardise the procedures associated with them, through the adoption of nine manuals of general application within the federal public administration, including layout of its processes to facilitate the operation of the units of the spending departments and agencies. The manuals, which were published in the Official Journal of the Federation during the months of July

and August 2010, have the objective to regulate matters of Acquisitions, Leases and Services of Public Sector, Public Works and Related Services, Human Resources, Financial Resources, Material Resources, Information Technology and Communication, Transparency, Audit and Internal Control (more on this topic may be read in the chapter of this review addressing regulatory matters).

167. In total, since the beginning of Regulatory Reform Zero Base (Reforma Regulatoria Base Cero) by 18 February 2011 15 241 rules, of which 5,641 substantive norms and 9 600 administrative norms, *i.e.* 44% of 34 457 existing rules within the federal public administration, were eliminated.⁴⁹ Of the 9 600 administrative rules eliminated 1 192 rules related to ICT.

168. The Manual on Information and Communication Technologies⁵⁰ (Manual Administrativo de Aplicación General en Materia de Tecnologías de la Información y Comunicaciones - MAAGTIC) was released on 13 July 2010⁵¹ and entered into force on 20 August 2010 – after which date its application became compulsory for the whole public administration at the federal level. The manual sets out the administrative provisions related to information and communication technology mandatory for the agencies of the federal public administration and, where appropriate, for the Attorney General's Office.

169. The manual has the purpose to homologate and harmonise the activities conducted by the departments and agencies of the federal public administration in the area of ICTs; to establish standard indicators that enable to measure the results achieved in the management of ICTS; to ensure the use of best practices to achieve higher efficiencies in the institutional activities and processes; and to increase the citizens' satisfaction and quality of services. The ICTs manual contains indeed the strategy to homologate the activities of 30 processes and ranges from the digital agenda, to internal activities as well as activities for the development of the technological infrastructure, from activities of individual and professional development, to the systematisation of procedures and services to the citizenry

170. With the entry into force of the manual on ICTs the government aims specifically to:

- Generate resource savings for citizens, businesses and for the Nation through the supply of automated digital services, procedures and processes.
- Increase the effectiveness of public agencies by improving the governmental digital readiness.
- Encourage governmental transparency.

171. In moment of fiscal restrictions and economic austerity the initiative undertaken by the government of Mexico to achieve higher administrative simplification and improve the quality of the regulatory context, also in the ICTs area, needs to be praised. The overall aim is to foster better internal processes, achieve savings, improve transparency and enhance public service delivery. The efforts made through the publication of nine manuals of general application complement the actions which aim to simplify services and procedure which affect citizens and businesses (*e.g.* such as the portal [www. tuempresa.gob.mx](http://www.tuempresa.gob.mx)) By eliminating redundancies, favoring standardisation and sustaining higher clarity, the manual on ICTs has the potential to support a more effective, efficient and consistent use of ICTs to improve the internal operational functioning of the public administration as well as the interaction between the latter and the Mexican citizenry and businesses.

172. By standardising and homologating processes and procedures the application of the ICTs manual will facilitate the achievement of economic and time savings, but will also require higher integration of operations, databases and systems among the different entities of the federal public

administration. Hence, this initiative is also leading to very important changes from the organisational, structural and technological perspectives. The horizontal nature of this initiative and the involvement of different relevant players for the implementation of the changes it fosters in the ICTs area will require constant political leadership and commitment in the various ministries, departments and agencies.

173. The manuals are a crucial point of departure not only to support standardisation and homologation but also to enhance integration and thus reinforce co-ordination, in order to ensure an optimisation in the use of systems already in place and of the development of new ones. The key point will be to ensure the existence of the right level of institutional capacity, as well as a supporting plan for the implementation of the manuals. The manuals can help the government use ICTs in a way that supports the reform of the public sector and the increase of efficiency and transparency. As such, the initiative of the manuals is making the government move towards the right direction although the manuals' effort should not be seen as an individual isolated effort.

6.2 Project for the homologation of IT regulation

174. The Ministry of Economy, the Mexican Internet Association (AMIPCI)⁵² and the National Chamber of Electronic Industry, Telecommunications and Information Technology (CANIETI)⁵³ through the Program Development Software Industry (Prosoft), launched in 2008 the project "Institutional Strengthening and Improvement of the Legal, Regulatory and Sectoral Policies", which had a component consisting in the comprehensive review of the regulatory framework and policies of the states. The project focused on the institutional strengthening and improvement of the legal, regulatory and sectoral policies in order to promote the co-ordination *vis à vis* the regulatory and legal reform, to generate approximation of targeted results, to boost legislative harmonisation and thus foster the legislative uniformity across levels of government. Specifically, the program aimed to study the regulatory, legal and national sectoral policies. The project was divided in five phases and the last, was supposed to be completed by 2012, and envisaged the execution of the proposals of revision of the regulatory, legal and policy framework at the federal level.

175. Specific purposes of the project were:

- Analysis and monitoring of legislation, regulations and program at the state and federal levels, in order to determine the degree of progress towards the development of IT.
- Update the study from the analysis of jurisdictions that have experienced waivers, modifications, additions, alterations.
- Train more local public officials on the legal aspects of IT.
- Induce concrete policy changes to promote electronic commerce and, in general, the development of ICT.

176. The study which revised a total number of 12,249 between laws (*e.g.* codes, statutes) and regulations (*e.g.* decrees, agreements, rules) existing in the 31 states and at the federal level. The study has so far enabled the identification of three main problems:

1. The heterogeneity in the formats of the normative sources
2. The different stages of legal and regulatory development at the various levels of government

3. Dissimilarity of concerns at the state level

177. The way ahead envisages:

1. The definition of the agenda for the establishment of a permanent link between the Ministry of Economy and AMIPCI to ensure the constant exchange of information on the project's developments.
2. The further development of the institutional co-ordination
3. The improvement of the web content on the institutional work, role and initiatives
4. Channel and foster awareness on key normative concepts concerning legal changes through the support of the Congress
5. Contribute to the development of the digital agenda.

178. The web-based database which was established as a part of the study and is constantly updated is considered as a very useful tool where all provisions of the constitutions, laws, regulations and government programs of the 32 states of the United Mexican States which refer to IT, or those that are omitted in this area, can easily be spotted. This project complements the wider efforts of the Federal government to boost administrative simplification and regulatory harmonisation in the IT area across. As a matter of fact the implementation of this initiative was suspended at the Federal level as a result of the publication and adoption of MAAGTIC, which covers almost entirely the objectives of this initiative.

7. Looking ahead: Leveraging new e-government services

7.1 The “cloud building” approach

179. Digital government infrastructures provide generic functionalities that are used by a large number of users. Typically they have no central authority, are governed by networks and contain both emerging and purposefully designed parts. The new generation of digital government infrastructures provides not only technological services, such as connectivity and security, but also shared information and knowledge thus making it easier to participate, and manage collaboration between public and private parties, between public parties and citizens and in this way advancing digital government.

180. Mexico, as all other OECD governments, is facing the challenge to make a connection between ICT investments aimed to develop the e-government infrastructure and social value creation, which is the return on investment citizens and businesses demand, and to multiply the value generated by current systems, applications, platforms. In this context, Mexico undertook a comprehensive review of its e-government strategy and, as a result, identified new opportunities. One of these is the one related to a new generation of e-government services based on the use of Open Social Standards (OSS).

181. Current discussions show Mexico's openness towards new phenomena and trends. The Government is in fact considering the possibility of developing cloud infrastructure and services to enhance performance and reduce the overall cost of deployment, ownership and management as well as to take the opportunity of the new technologies and the social network phenomenon. The idea is to increase the number of applications created in the cloud to facilitate public institutions' access to them.

The platform created in the cloud should facilitate access to services, as well as content distribution among all levels of government. The expected end result should be better use of resources, enhanced co-operation and sharing, and improved service delivery.

182. Mexico looked into opportunities provided by the new technologies in alignment with its strategic pillars of the e-government digital agenda:

1. Enhance public institutions capacity through improvements in operational efficiency to support construction and protection of public and common goods;
2. Improve access to public and common goods by reduction of transaction costs between government and the citizen.

Build interoperable information structures that abide by the definition of information public goods, or “infostructure.”⁵⁴ The latter objective is aligned with the definition of information as public goods.⁵⁵

183. In economics, the longstanding framework for classifying goods and services for policy purposes is called the Theory of Public Expenditure. Proposed by Paul A. Samuelson in 1954, it states that all services and goods can be classified according to the levels of exclusion and rivalry associated with each kind of good, where exclusion means that there are physical or legal barriers to access a good, and rivalry means that once a unit of a good is consumed there is less of it for the rest of the consumers. Examples of types of goods can be seen below.

Table 4. Public and Common Goods

	Low Exclusion	High Exclusion
High Rivalry	Common Goods Forests, fishing banks, rivers and lagoons	Private Goods Apples, cars, computers, clothing
Low Rivalry	Public Goods National defense, public health, air	Club Goods Copyright-protected information

Source: Leveraging New E-Government Services through the Open Social Standard.

184. The theoretical approach adopted by the Mexican government considered the conceptualisation of new projects based on the idea that they shall relate to as many as possible of these pillars.

185. Hence, the criteria followed were that the solution should:

- enable the government to develop its own cloud environment
- function as social network technology (e.g. evolve through bottom-up approach, establish a federated and collaborative environment of systems and information, or interoperability, its evolution is in the hands of the users, based on semantic functionality and interoperability)
- enhance public institutions’ capacity
- reduce transaction costs

- be non capital-intensive
- be regarded as an interoperable information public good

186. The Government decided to adopt a “cloud building” approach and looked into open standards supported by major industry players to reduce initial investments. The focus has been on building a robust legal framework to support a new generation of e-government services, set up a federated architecture of social network technology and ease of development through established application programming interfaces to so support a simple and straightforward approach for new applications development where 200 federal institutions could converge fast and obtain more value out of existing assets.

187. This approach was used to support the development of a project aimed at renewing Mexico’s citizen portal. The Project is structured in two phases:

Phase 1 The basic service will change from channel and directory driven to search driven. All government websites will be indexed by semantic search technology. The backend of this service will allow for gap analysis between citizens’ information needs and government’s supply. It will also enable a better communication process through the use of sponsored links that respond to specific needs.

Phase 2 During this phase the new portal will allow a self-service enrolment into the National Digital Identity Registry (NDIR) via the use of Advanced Digital Signature which works with the tax revenue service and is related to the national population database. This phase will be accompanied by the release of the National Interoperability Scheme whereby, among other things, a significant change is expected to be a shift in the information sharing philosophy from “need to know” to “duty to share”. Information will be available to institutions through secure services so that federal agencies won’t be allowed to ask again for citizens’ information already captured in their digital identities.

Box 10. 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.

Source: www.epractice.eu/cases/dvdv (accessed 22 March 2011).

188. Once the citizen completes and signs-in with the digital identity it will be allowed to subscribe to different services provided by the different participating government agencies to be developed through the national interoperability solution (API). Hence, the citizens’ identity will be unified across all government agencies.

189. The acquisition process was expected to last from December 2010 to January 2011. Phase 1 is expected to be released on March 2011 and Phase 2 will be rolled out in May 2011.

190. The Government expects the project to transform the government portal into a new piece of the national “infostructure” spawning a new generation of government services. The use of Open Social Standards selected as an enabling technologies to support the distributed social networking approach will also sustain the engagement and support of the private sector leaders.

191. The project follows the OECD best practice in the area, and has a great potential to increase the internal operational efficiency as well as the efficiency of service delivery. Many public government organisations ignore the fact that they are dependent on others in the development of ICT projects and that needed functionalities might already have been developed by other organisations. As a result, individual decision-makers frequently make local design decisions, which may influence further developments, or provoke waste of resources. This project will enable the policy-makers and decision-makers to obtain a better understanding of the dependencies involved in the delivery of the various services, as well as of the interdependencies among operations, systems and processes.

192. The API and the development of new government agencies’ applications to work as gadgets inside the portal, or in conjunction to the NDIR applications, will enable the sharing of information and operations among federal government agencies. As systems and databases will appear increasingly obsolete and redundant (*e.g.* those dealing with identity and citizen’s location), the project will provide the opportunity to streamline and eliminate them in order to reduce the total costs of ownership and operation.

193. Service delivery is thus expected to become more convenient for the users that can access multiple services through a one-stop-shop and will not have to provide the information more than once. The internal operational efficiency is also expected to increase, while transaction costs will decrease and easiness and convenience of services’ access will be improved.

194. The government expects also that the adoption of a social network architecture, where valid identities are contained, will sustain formal interactions among participants where valuable economic and legal interaction may take place. Finally, a potential impact may occur in terms of systemic changes in the e-government landscape, where the social network component of the ICT ecosystem could become a new driving force.

Box 11. Cloud computing

The Obama Administration has been willing to changing the way business is done in the federal Administration, to bringing a new sense of responsibility to how taxpayer dollars are managed, and to boost innovation and technology to improve performance and lower the cost of government operations. The United States Government is the world’s largest consumer of information technology, spending over \$76 billion annually on more than 10 000 different systems. Fragmentation of systems, poor project execution, and the drag of legacy technology in the Federal Government have presented barriers to achieving the productivity and performance gains found when technology is deployed effectively in the private sectors. In September 2009, the American government announced the Federal Government’s Cloud Computing Initiative. The American government adopted the definition of cloud computing of the National Institute of Standards and Technology (NIST), according to which cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (*e.g.*, networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model promotes availability and is composed of essential characteristics, deployment models, and various service models. Cloud computing is seen as having the potential to greatly reduce waste, increase data center efficiency and utilization rates, and lower operating costs. As the United States move to the cloud the Government wants to place emphasis on vigilance in the efforts to ensure that the standards are in place for a cloud computing environment that provides for security of government information, protects the privacy of our citizens, and safeguards our national security interests.

Source: State of Public Sector Cloud Computing, US CIOs Council (May 2010).

7.2 The potential of mobile government

195. In order to bring its services to the population, the public sector in Mexico offers an increasing variety of applications for mobile devices both online or offline. While some of these applications have been developed to provide alternatives to the existing modes of service delivery, others have emerged with very innovative or specific purposes.

196. At the federal level, a good example of mobile services are those offered by INFONAVIT which allows through the mobile phones to access a wealth of information (*e.g.* on how to obtain a credit or on the latest savings for housing and employer contribution, on prequalification, on contest rewards, on credit balance), make inquiries, obtain weekly figures for loans granted by the Infonavit, consult credit options, receive news on agreements with other institutions, get rewards and discounts, receive SMS with specifically requested information, and enables its personnel to use mobile technology for some of the daily job-related activities.⁵⁶

197. At the local level, the State Government of Jalisco⁵⁷ enables citizens, through mobile phones, to access information on procedures and services, to learn on social development, to access officials' directory, to have an overview the state government, to access a mailbox for comments, questions and suggestions; and the State Government of Veracruz⁵⁸ seem to be offering the greater variety and number of mobile applications and services at the local level in Mexico.⁵⁹

198. The existing mobile government applications offer three types of services:

199. Informative Services: Through these applications governments provide information for free for all audiences collectively (through a web page tailored for viewing on mobile devices) or only for individuals (through internal and exclusive systems);

200. Interactive Services: The citizens must send text messages (keywords to a specific telephone number) to receive the requested information on the mobile device and the service can either be at a charge or given for free (*e.g.* information on archaeological and historic sites that can be obtained by audio or text message. This is the category where there is the greatest number and variety of available applications.

201. Transaction Services: Citizens make payments to a bank to obtain these services. They can do it from anywhere and at anytime. They only need to download a specific application on the mobile device. These services are still little used by the governments. In fact, only Forecasting for Public Assistance are offered to participate in the sweepstakes.

202. In consideration of the potential of m-government to reach vulnerable groups of the population and to increase the efficiency, effectiveness, convenience and responsiveness of service delivery it is important for the Mexican government to look into the possibility of further exploiting the potential in this area. The wide acceptance and use of mobile technologies by the public and the higher penetration of the mobile devices represent an important background. However, as the number of mobile applications offered by the government increases it will be important for the government to develop a government framework incorporating the following principles: interoperability, security, openness, flexibility and scalability. The framework should also address main challenges from the organisational (*e.g.* leadership, legal issues, strategic vision supporting the development in this area), governance (*e.g.* accountability, users' participation in the identification of services to be provided via mobile technology) and social (*e.g.* users' awareness, pricing, trust, security, usability) perspectives.

7.3 OECD experiences in implementing mobile government

Improving national judiciary services in Turkey

203. The Turkish SMS judicial information system officially called National Judiciary Informatics System (UYAP)⁶⁰ provides services for the citizens and lawyers which enable them to receive SMS messages containing legal information such as ongoing cases, dates of court hearings, latest changes in the case and suits. Although SMS do not replace official notification, they provide timely provision of information to the parties so who can take necessary measures can do it without delays and thus prevent deprivation of legal rights.

204. The Turkish Constitution states that judicial tasks should be maintained in a swift and economic manner. In addition to this, better and easy access to the justice is included as fundamental priority in the Accession Partnership of the EU. UYAP increases the quality of legal services by reducing the needed budget, ensures utmost availability of information, and can help preventing red tape. For citizens and lawyers it is not necessary to travel to courthouses to get information on the case status, or to find out the date of the hearing, hence they can save time and money. The system will be integrated with other e-government applications of other state departments to enable citizens to be informed instantly about all other public services. For example, the plan is to integrate it with the security forces' electronic system. When a wanted person will enter into hospitals, pharmacies, airports and railway ports and makes any transaction with their system, the nearest police station will be alarmed by SMS and show the person's geographical position. Criminal records and birth registration needed to take up a public employment will be sent to citizen's mobile phone.

205. This m-government application has the potential to transform the vision of judicial organs from a conservative state demanding information from individuals to a modern state swiftly providing information to them so as to prevent unjust treatments and irregularities. Use of this system makes the justice system more efficient and transparent, engendering greater public trust and confidence in the judiciary and respect for the rule of law. SMS information system applications has become a key method for reaching citizens living in remote areas and promoting exchange of communications. Ability of reaching people living in rural areas, which are numerous in Turkey, may be considered as an important feature of the system.

Facilitating and furthering securing usage of m- and e-government services in Estonia

206. The Mobile-ID service⁶¹ is a collection of organizational and technical measures to create strong, seamless digital identity for internet users. To use the Mobile-ID, the user must acquire the special SIM card available by mobile operators. For stronger security, the user needs to activate the service on a website with his Estonian ID card, and the Mobile-ID is then ready to be used on any compatible website for authentication and digital signature. The service is implemented according to Public Key Infrastructure (PKI). The service was launched by mobile operator EMT in cooperation with CA AS Sertifitseerimiskeskus and the whole initiative is led by Ministry of Economic Affairs and Communications. The main driver of this project was the fact that Estonia's mobile market is one of the most penetrated, exceeding 100%. Mobile broadband access services as well as mobile content and applications are readily available underpinning future revenue growth. By implementing the Mobile-ID compliance to Directive 1999/93/EC, and to the subsequent Estonian Digital Signature Law, was ensured. The main impact is for the users, as the login (authentication) process is more convenient and compatible between websites. This service has shown real value in furthering secure usage of m- and e-services. Both ID-card and mobile phone are handy devices that most people have with them at all times, and with this application the use of e-government services can be enhanced while security

related concerns may be minimized to a great extent. There are no more queuing, no bribes, no forms in triplicate, and no need to plead a case to several administrator. The benefit for service providers is that the authentication process is highly secure and low cost.

7.4 Addressing the needs of disabled citizens in OECD member countries⁶²

207. The Police Service of **Northern Ireland** operates an emergency SMS text message registration scheme to assist those with certain disabilities to be able to contact them in an emergency. This service also enables police to pass on requests for assistance to the Fire and Ambulance service as well.

208. Similarly, in West Midland (**United Kingdom**), if deaf citizens, or citizens with hearing difficulties, have a problem, they send a message to central police mobile number. This service is meant for registered citizens whose information has been given to police. The first service of such type in Great Britain, received the award of prestigious global GSM Association in 2003 – —Best Use of Wireless for Accessibility.

209. In case of hazardous/toxic fire or other threat, the deaf citizens of **Amsterdam** receive SMS message – accompanying to siren (*e.g.* Go home, close windows and doors.)

7.5 Simplifying tax returns through mobile government in OECD member countries

210. The **Norwegian** Inland Revenue is giving Norwegians the chance to complete their tax returns by text message. It applies to taxpayers who have no changes to make to the form they receive in the post. In 2002 1.5 million Norwegian taxpayers returned the form unchanged. In 2003, they could simply send a text message with a code word, their identity number and a pin code instead.

211. **Sweden**'s national tax authority sends a pre-completed form to taxpayers, calculating how much they owe. This is possible because the tax authority sends a pre-completed form to every taxpayer, calculating how much they owe. All they need to do is agree to the assessment - by post, phone, Internet or text message. And in 2004 over 90,000 of Sweden's 7m taxpayers chose the mobile phone to do it. The citizens have an incentive to use electronic channels because it would cost them 6 krona (about 50p) by post. It was calculated that it saves 13 kronor (about £1) for every approval filed electronically.

8. Conclusions and key recommendations

212. OECD governments worldwide are facing tough budget challenges which in turn are making resource investments scarcer for information and communication technologies in the public sector. Hence, the pressing need for all of them is to maximise the usefulness of existing or new ICT projects, purchases or contracts; to increase interoperability and integration of systems and databases to achieve higher efficiencies and better use of resources; and to show they are using e-government to perform better, deliver better services and prove their results.

213. Furthermore, as society increasingly operates in an e-world that moves beyond just the internet and online application processes, governments are increasing the use of new technologies to change the way the public sector operates internally and interacts with citizens and business. Social networks, mobile government and cloud computing solutions are some of the contemporary trends governments are eagerly trying to engage and use to maximise efficiency of internal operations and service delivery.

214. In such a context and in line with previous administrations, the federal government of Mexico continues to show high commitment in exploiting Information and Communication Technology (ICT) to improve the internal management of the public administration, to provide better services and easier access to information, to increase accountability and transparency, and to strengthen citizens' participation.

215. This is being accomplished by:

- embracing an innovative approach: broadening the vision and taking advantage of new technologies
- boosting interoperability and integration of ICT systems in the federal public administration
- assessing and measuring results and performance
- strengthening the institutional and governance framework and promoting effective co-ordination

216. This chapter highlights excellent examples of actions taken by the federal government of Mexico, or specific projects it implemented, which very well exemplify its efforts, and related achievements to: support greater integration (*e.g.* Federal Inventory System, International Trade Single Window, Integration of RUPA in the citizens' portal) and interoperability (*e.g.* Interoperability Scheme, RUPA, RUV), increase effective co-ordination and institutional support (*e.g.* changes made in relation to the CIDGE), establish an adequate legal and regulatory framework to enable the changes desired (*e.g.* MAAGTIC, a number of decrees), define a Digital Agenda for the federal public administration to increase the use and spread the benefits of the ICT, and enhance and measure the performance of the federal public administration (*e.g.* Evaluation Model) in innovative ways (*e.g.* adopting the cloud-building approach).

217. The Mexican government believes indeed that through the use of new opportunities, and by broadening the vision and underlying concepts, governments can go beyond being users of ICTs and become driving forces within the new technological landscape, while providing a new generation of e-government services. Mexico's recent experience in exploring ideas related to cloud computing and social networks show that the country is among OECD members that have embraced innovative approaches and applied them to concrete projects to maximise the value of new technologies. The federal government of Mexico is indeed trying to be innovative with the clear purpose to ensure that the adoption of new technologies is not only a casual trend, but produces systemic changes that will have a far-reaching impact.

218. The following recommendations aim to provide the Federal Government with ideas on actions that it could take to secure the long-term sustainability of the achieved results and to ensure the development of the most adequate environment to fully reap the benefits of Mexico's strategic and innovative approach. This will support the progresses of the Mexican government towards increased operational efficiency and effectiveness, and improved service delivery.

Recommendations

219. Ensure effective co-ordination and collaboration to support concrete progresses in the development and implementation of e-government projects and related initiatives

220. Important efforts have been made to increase the effectiveness of the Commission for the Development of Electronic Government (CIDGE) in relation to a number of its tasks. However, the government of Mexico could **consider reinforcing the role of the CIDGE as the body responsible for ensuring the co-ordination in the use of ICT within the federal public administration and for promoting the establishment of mechanisms for co-ordination and collaboration among the federal authorities, the governments of the states and the municipalities.** Strengthening its decisional powers, for instance, could help reinforcing its role and increasing the impact of its actions. This can be particularly beneficial as the wide context of the Digital Agenda in Mexico seems indeed to be characterised by a number of exchange/co-ordination committees (or similar bodies) established within the frameworks of the various ICT related strategies.

221. As the government of Mexico wishes to move towards higher levels of increased integration and interoperability of systems and platforms, having a clear visionary direction will not be sufficient to guarantee the results which will demand effective co-ordination and collaboration among the different ministries and public entities to promote the exchange of information and experiences, and to strengthen the analysis of common issues and the development of joint e-government and ICT projects. The collaboration and co-ordination at the federal level and between the federal government and the local authorities becomes crucial in order to achieve a real integration of efforts, to produce a real benefit for the citizens, and to ensure an overall more balanced e-government development across the while public sector.

222. *Ensure an even development of the digital maturity of public sector organisations across and within levels of government to enhance the overall government’s competitiveness*

223. Overall, federal public institutions in Mexico show a good level of digital maturity, which is the result of more than a decade of national investments on e-government, of a sound strategic approach and of the commitment shown by the political leadership. However, **ensuring that a wider number of public entities reach at least an intermediate level of digital maturity will be essential to support the government’s efforts to foster integration and interoperability, and to ensure that public organisations and civil servants be positioned and equipped to fully take advantage of a more advanced digital environment.**

224. As a result, the government could count on a higher number of organisations capable to actively participate in an integrated environment. This would enable improved service delivery in the front office - in a number of domains - thanks to higher integration in the back office. To this end, it would be advisable for the government of Mexico **to extend the analysis based on the “Evaluation Model for Digital Government” to all other agencies of the federal public administration and to the other levels of government.**

225. This would help mapping the level of digital maturity across the whole public administration and acquiring a more comprehensive understanding of the efforts needed to bring the digital maturity of the whole system to a more even level in order to ensure an effective implementation of the policies aiming at improving integrated service delivery. The results of the analysis could be utilised to conceive a strategy and a plan of action to address specific needs in terms of digital maturity and institutional capacity within the federal public administration (*e.g.* strengthen the functions and raise the level of knowledge of the owners of the areas of ICT to enhance their participation in the strategies of their agency) as well as at the states and municipalities’ level. The federal government can play a significant role to assist the municipalities and states with less advanced levels of e-government development to access and adopt national or international good practices.

226. Enable the Ministry of Public Administration to fully reap the benefits and maximise the results of ICT projects within the federal public administration

227. As new systems, applications and platforms are being developed it is crucial to avoid duplication and rationalise the use of public resources to boost integration and interoperability. To this end PETIC is a helpful tool to help standardising ICT to maximise the usefulness of existing or new systems and to facilitate interoperability and integration of systems and databases. However, to optimise the realisation of ICT project's benefits the government of Mexico could consider a number of actions:

- **Complementing the use of PETIC with other instruments and tools such as business case models.** Developing, adopting and applying a business case model embedding a wide set of criteria (*e.g.* efficiency-gains in administrative processes, achievable savings, effective management, innovative and integrated solutions) may help to deliver a financial overview and allow the government to compare the planned value and objectives to the estimated costs and investments, and/or appraise the role of innovative technology deployment to achieve a broad set of benefits and improve service delivery. A systemic 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.
- **Reviewing the funding arrangements and mechanisms for ICT and e-government projects to improve the budgetary framework and remove existing barriers.** A budgetary framework that accounts for the shared responsibility inherent in many e-government projects is crucial to sustain an efficient implementation of e-government especially as the Government is hoping to foster higher IT integration. As an example, it can help avoiding the duplication of systems or the deployment of redundant ones in public agencies, it can facilitate the measuring of the overall costs of developing new systems, and it can improve the monitoring of transversal benefits. In the longer run it can provide the basis to develop new funding cases, and can sustain the overall efforts of the Mexican government to enhance interoperability and increase co-ordination at the federal government level.
- Ensuring the right levels of “e” skills, digital knowledge and institutional capacity in the body responsible for approving e-government projects to back-up the selection and endorsement of the most desirable projects.
- **Leveraging existing applications to accelerate the automation process** by facilitating the scaling up and/or the replication and/or transfer of systems and applications when possible, and the sharing of good practices and experiences across levels of government (*e.g.* support the replication/transfer of good systems/practices developed at the federal level to the state levels) to avoid duplication of efforts and investments. Compranet, Tramitanet, FEA and RUPA are examples of transversal e-government services where the participation of states and municipalities should be increased as this can lead to considerable savings in terms of time, and of financial and human resources. These are excellent examples that could be replicated as they sustain further integration and interoperability of systems as well as co-ordination.
- Monitoring closely, and optimising the use of, the wealth of results, information and evidences acquired through current projects (*e.g.* Federal Inventory System, the new government portal) to identify and better understand interdependencies among public entities (*i.e.* operations, processes, systems) to spot opportunities for systemic change (*e.g.* transform

processes, renovate business models, foster the sharing of platforms and solutions) and discern if needed functionalities have already been developed by other organisations to scale them up and thus avoid duplications and save resources. A careful analysis of these data can thus become an opportunity to streamline and eliminate processes and systems so that the total cost of ownership and operations can be reduced, and to improve the current context.

- **Increase the number of services where the Advanced Digital signature (FIEL) can be used**

228. Improve the alignment of the digital government strategy with other relevant ICT strategies

229. The impression is that what is missing is a co-ordination mechanism capable to ensure effective linkages and alignment of all ICT related strategies (the Digital Government Agenda, the Agenda Digital of the National System e-México 2010-2015, the digital economy strategy) as there is no organic mechanism to ensure inter-institutional co-ordination when relevant to the implementation of the various strategies, or the achievement of specific objectives which require cross cutting actions.

230. Linking effectively the digital government agenda with the e-Mexico System and with the Digital Economy Strategy is crucial to ensure sustainable and consistent approaches and objectives, as well as the achievement of results. Some areas of overlapping, and the proliferation of co-ordination bodies gathering similar stakeholders, may endanger the optimal use of available resources, and jeopardise a coherent alignment of objectives and the creation of synergies whenever possible.

231. Avoiding overlapping, but also having a real alignment of the objectives, is pivotal. For instance, maximising the results of new e-government services requires the presence of a critical mass of users. Given the high number of Mexicans that still do not use the internet, and are excluded from the digital society, ensuring an alignment between the Digital Government Agenda's plan to promote the digitisation of government services and procedures to facilitate access to citizens and e-Mexico's goal to increase the number of internet users and reduce the digital divide will be crucial to ensure the desired return on the investments made to improve online service delivery. Enhancing connectivity, developing relevant content and facilitating the access to, and integration of, relevant content through the portal e-Mexico can increase the e-readiness of the Mexican society and the possibility of the people to access relevant content and on line services, to perform procedures and transaction, thus benefitting at the most of the opportunities brought about by the information technology. This will require, however, a coherence of actions and interventions between the two strategies.

¹ See OECD (2011), *Restoring Public Finances* (forthcoming) and OECD *Economic Survey: Mexico 2011*, OECD Paris.

² Doing A Business 2011: Making A Difference for Entrepreneurs. World Bank. Washington 2011, www.doingbusiness.org/~media/FDPKM/Doing%20Business/Documents/Annual-Reports/English/DB11-FullReport.pdf (last accessed on January 2011).

³ www.presidencia.gob.mx/en/press/?contenido=28467.

⁴ Mexico experienced the most significant drop in global rankings. It fell by 19 positions from the 2008 Survey to the 2010 Survey and is currently ranked 56th globally. The degeneration of Mexico's e-government is mainly attributed to the much lower score for online services, which dropped from 0.7057 to 0.4413. E-Government Survey 2010. United Nations Department of Economic and Social Affairs. Available at: <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan038851.pdf>.

⁵ See www.e-mexico.gob.mx.

⁶ OECD (2003), *The E-Government Imperative*.

⁷ National Development Plan 2007-2012.

⁸ www.presidencia.gob.mx/infografias/2010/09/02/resultados_diez_puntos.

⁹ E-government is defined by the OECD as “the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government”. OECD E-Government Series. *The E-Government Imperative*, OECD (2003).

¹⁰ Agreement CIDGE2010/015.

¹¹ Agreement CIDGE/2010/017.

¹² Available at: www.eclac.org/socinfo/noticias/noticias/2/32222/White_Book_of_e-Government-.pdf.

¹³ Available at: www.icann.org/en/announcements/operating-principles-lacralo-en.pdf.

¹⁴ Agreement CIDGE/2010/018.

¹⁵ <http://www.maagtic.gob.mx>.

¹⁶ OECD (2006), *OECD E-Government Studies* – Denmark, Paris, France. Figure 1.2, page 47.

¹⁷ Agreement CIGGE/2010/016.

¹⁸ The European Interoperability Framework for Pan-European e-Government Service, Version 1.0 (see the link: <http://ec.europa.eu/idabc/servlets/Doc?id=19529> – accessed 2 January 2008) was adopted and approved in 2004. The European Commission is revising the Framework and will publish Version 2.0 early 2008.

¹⁹ See www.epractice.eu/cases/ICAR.

²⁰ Source: www.digitpa.gov.it.

²¹ See www.esiig2.it/esiig2/doc_call_for_papers/19_Alonso_Sanchez_Castilla_Leon.pdf.

²² METER is a policy advisory tool which helps governments and decision makers at all levels of government worldwide to develop, monitor, upgrade and improve the context in which they use information technologies (ICT) to transform the traditional government into e-government. It also helps to determine and monitor the status of a country in relation to the establishment of an enabling environment for e-government development, www.unpan.org/DPADM/EGovernment/METERforEGovernment/tabid/1270/language/en-US/Default.aspx.

²³ Viniestra C. (August 2010), *Infostructure: “Information as a Public Good: Política Digital”*, www.politicadigital.com.mx.

²⁴ *Agencia de los Estados Unidos para el Desarrollo Internacional (USAID), Director de la Misión Asociación Mexicana de Estándares para el Comercio Electrónico (AMECE), Presidente, Asociación Mexicana de Internet (AMIPCI), Presidente Asociación Mexicana de la Industria de Tecnologías de Información (AMITI), Presidente, Asociación Mexicana de Profesionales en Informática, A.C. (AMPI), Presidente, Asociación Nacional de Instituciones de Educación en Informática, A.C. (ANIEI), Presidenta, Cámara Nacional de la Industria Electrónica de Telecomunicaciones e Informática (CANIETI), Head of the OECD Centre in Mexico, Presidente Nacional Centro de la OCDE en México, Representante de la OCDE en México, Comité de Informática de la Administración Pública Estatal y Municipal (CIAPEM), Presidente del Comité Ejecutivo, Instituto Politécnico Nacional (IPN), Director General Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Rector Universidad Nacional Autónoma de México (UNAM), Rector Fundación México Digital, A.C., Presidente Colegio de Ingenieros Mecánicos y Electricistas, A.C., Presidente Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV), Director General Instituto Tecnológico Autónomo de México*

(ITAM), *Rector Universidad Iberoamericana* (IBERO), *Rector CIAPEM*, *Presidente del Comité Ejecutivo CONACYT*, *Presidente INFOTEC*, *Director Ejecutivo*.

²⁵ The mission of the Digital Mexico Foundation is to work in developing the domestic market of information technologies with a focus on promoting the adoption of these technologies in specific productive chains. The Government of Mexico sees indeed in the strengthening of productive chains an opportunity area to increase competitiveness of the economy as a whole and to strengthen the domestic market. As the chain axis of economic relations between businesses and consumers (supply and demand), the emphasis of the Digital Mexico Foundation will be to focus on developing best practices and solutions for integration and modernization of production chains in economic sectors selected for their impact on employment, economic growth and exports.

For more information: www.canieti.org/index.asp?_option_id=13&_option_parent_id=0&_option_level=0.

²⁶ *Fideicomiso e-Mexico, Reglas de Operacion del Fideicomiso e-Mexico, Primera Sesión del Comité Técnico* (1/2002).

²⁷ Various official government sites provide access to federal procurement procedures amended statement of assets and acts of the President of the Republic: www.funcionpublica.gob.mx/; <http://declarinet.gob.mx/>; <http://www.presidencia.gob.mx>.

²⁸ As is the case of the Federal Institute of Access to Information www.ifai.gob.mx.

²⁹ Currently you can generate online reports on officials for corruption or citizens' complaint: www.funcionpublica.gob.mx/index.php/denuncia.html; www.pgr.gob.mx/denuncia/denuncia.asp.

³⁰ For more information on this see section 7.1 of this chapter.

³¹ State of the Nation (email Oscar – IV Informa de Gobierno).

³² www.theacsi.org/.

³³ www.sat.gob.mx.

³⁴ State of the Nation.

³⁵ Country Procurement Assessment Report, Banco Mundial, 2008 y *Asesoría del Centro de Investigación y Docencia Económicas*, A.C., 2008.

³⁶ A reverse auction is a type of auction in which the roles of buyers and sellers are reversed. In an ordinary auction (also known as a forward auction), buyers compete to obtain a good or service, and the price typically increases over time. In a reverse auction, sellers compete to obtain business, and prices typically decrease over time.

³⁷ www.rupa.gob.mx.

³⁸ The guidelines intended to establish the operating rules to be observed by the decentralised departments and agencies of the federal Public Administration for the receipt, operation and processing of applications for registration to the Single Registry of Accredited Persons (RUPA) made by physical and moral people, as well as their resolution, notification and delivery of records are available at www.funcionpublica.gob.mx/pt/difusion_disposiciones_juridicas/rupa.html.

³⁹ www.rupa.gob.mx.

⁴⁰ These numbers refer to registries related to the Ministry of Public Administration, which has very limited interactions with the citizens. The total number of RUPA registries is much higher.

⁴¹ The American Customer Satisfaction Index (ACSI) was established in 1994 by Michigan School of Business to provide a new economic indicator tracking the quality of products and services from the perspective of the customer. Countries use ACSI as a leading economic indicator, and a predictor of financial performance.

⁴² <http://rsps.gob.mx/Sancionados/main.jsp>.

⁴³ <http://201.134.132.147/PortalMiCasa/Controller?action=ruv> (last visited on 20 December 2010).

⁴⁴ A system developed by INFONAVIT, the agency responsible for awarding credit to workers who become home owners. Infonavit has adopted a broad strategy to increase the use of ICTS based on the idea of co-ordination and integration among the various stakeholders.

⁴⁵ www.infonavit.gob.mx.

⁴⁶ <http://declaranet.gob.mx>.

⁴⁷ *DECRETO por el que se establece la Ventanilla Digital Mexicana de Comercio Exterior. Viernes 14 de enero de 2011 DIARIO OFICIAL.*

⁴⁸ *Decreto por el que se establece la Ventanilla Digital Mexicana de Comercio Exterior*, published in the Official Gazette in 14 January 2011.

⁴⁹ Ministry of Public Administration, “Fewer Rules, Better Results”, www.funcionpublica.gob.mx/images/doctos/programas/manuales/cuaderno_tala_ingles_web.pdf (last visited on 22 March 2011) and <http://www.sfp.gob.mx/index.php/programas/contador-de-normas-eliminadas> (last visited on 22 March 2011).

⁵⁰ www.funcionpublica.gob.mx/images/doctos/prensa/2010/manuales/8-Manual_TIC.pdf.

⁵¹ *Secretaria de la Funcion Publica , ACUERDO por el que se expide el Manual Administrativo de Aplicación General en Materia de Tecnologías de la Información y Comunicaciones (Continúa en la Segunda Sección), Diario Oficial*, 13 July 2010.

⁵² The Mexican Internet Association (AMIPCI) was founded in 1999, includes companies that represent a real influence on the development of the Internet Industry in Mexico, www.amipci.org.

⁵³ www.canieti.org.

⁵⁴ C. Viniegra, *Leveraging New E-Government Services through the Open Social Standard*, October 2010.

⁵⁵ In economics, a public good is a good that is non rival and non-excludable. Non-rivalry means that consumption of the good by one individual does not reduce availability of the good for consumption by others; and non-excludability that no one can be effectively excluded from using the good. Gravelle, Hugh; Rees, Ray *Microeconomics*, 2004.

⁵⁶ <http://portal.infonavit.org.mx/movil>.

⁵⁷ <http://mobile.jalisco.gob.mx/>, <http://movil.jalisco.gob.mx/>.

⁵⁸ <http://veracruz.gob.mx>.

⁵⁹ “*El Gobierno Móvil en México*”, in *Political Digital*, August-September 2010.

⁶⁰ *Source: http://www.uyap.gov.tr/english/index.html (last visited on 22 March 2011).*

⁶¹ *Source: http://www.id.ee/10995 (last visited on 22 March 2011).*

⁶² *Mobile Government: 2010 and Beyond. White Paper, European Union Regional Development Fund, January 2010.*