eGovernment – a driving force for innovation and efficiency in Public Administration

Sylvia Archmann* and Just Castillo Iglesias**

Through the increasing use of ICT, particularly with the enablement of interoperability and development of digital inclusion policies, public administrations across Europe are engaging in transformation processes, which aim at achieving a more efficient, effective, friendly, and citizen- and business-centric delivery of public services. This approach, also known as "Transformational Government", has become a driving force for innovation and reduction of administrative burden in European public administration, taking advantage of the possibilities that the most recent technological developments such as the Web 2.0 have opened. While the opportunities presented are enormous, there are also challenges to address in the implementation of such transformation processes that will be addressed in this article; in particular ensuring digital access for all citizens, and taking into account the multidimensionality of interoperability to enable sharing of governmental information across Europe.

Introduction

eGovernment, as defined by the European Commission, is about *"using the tools and systems made possible by Information and Communication Technologies (ICT) to provide better public services to citizens and businesses. ICT are already widely used by government bodies, just as in enterprises, but eGovernment involves much more than just the tools. Effective eGovernment also involves rethinking organisations and processes, and changing behaviour so that public services are delivered more efficiently to the people who need to use them. Implemented well, eGovernment enables all citizens, enterprises and organisations to carry out their business with government more easily, more quickly and at lower cost"* [1].

The introduction of ICT in public administration, as in many other contexts, has brought about myriad opportunities for more efficient and dynamic work, opening the door to innovation and better delivery of public services.

The introduction of the Lisbon Strategy for Growth and

Jobs in the year 2000 created a new focus on achieving growth and sustainability for both the European Union and its Member States. The objectives of the Lisbon strategy are to strengthen European economies to put them in good stead to reap the benefits of globalisation and to cope with the challenges faced by today's society: ageing populations, learning issues, environmental and sustainability challenges, competitiveness and efficiency as well as technological challenges.

For this reason, EU institutions have recognised the importance of investing efforts in and prioritising the development of eGovernment and ICT, given the central role of these technologies in supporting the current trend towards greater efficiency in both public and private sectors. Consequently, public administration has been required to take a leading role in innovation, promoting more dynamic and efficient working methods and higher-quality service

provision. Public administration also has to adopt a new, market-oriented approach to the delivery of public services that minimises bureaucracy and reduces the administrative burden on citizens and for businesses, thereby enhancing their satisfaction and increasing the efficiency and effectiveness of public administration back-office functions. The aim of this article is to give a comprehensive overview of the role that ICT and eGovernment play in triggering innovation and efficiency by enabling a more modern, efficient and high-quality public administration, while mapping out some aspects relevant to the current situation in European eGovernment. First of all, the article reviews the role of ICT in providing tools for promoting change and efficiency in public administration. Secondly, the article introduces the concept of '*Transformational Government*' and tackles the adoption of citizen-centric and business-centric approaches to service delivery and 'customer' attention in public administration. Thirdly, the section also pays special attention to the role of ICT in reducing the administrative burden for citizens and businesses. Fourthly, the article reviews the opportunities and main challenges to full implementation of ICT in public administration, paying special attention to the need to promote digital inclusion, skills and infrastructure.

Finally, the article addresses the importance of public administration taking the lead in ICT implementation and innovation in order to become a model and a driver for efficiency and quality.

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communication systems, which are less efficient. In this sense, and despite most of the EU Member States having already taken this step years ago, the introduction of ICT is not only an element of change that enables more efficient performance, but it also engenders substantial savings in terms of monetary cost and time.

ICT also enables the deployment of new channels of service delivery, making transactions with public administration more convenient for citizens and businesses. This has brought about two parallel phenomena: on the one hand, the disappearance of services which are no longer necessary and on the other hand, the creation of new services responding to new demands. This makes it possible to reallocate resources to areas where they become more necessary and, from the user's point of view, alleviates the burden of having to comply with administrative obligations. Moreover, as public administration back-offices become progressively more integrated and more able to share data and resources, the opportunities to offer better and simplified front-office service continues to grow. The changing role of citizens vis-à-vis the government, as well as the change in the exercise of their rights, makes this a priority area in the incorporation of ICT in public administration, which this article deals with in great detail.

Furthermore, the introduction of ICT has made it essential for leaders and public employees to acquire new skills in order to use the new tools to their full potential. The study on

ICT – A Driving Force for Innovation and Efficiency

As in other sectors, the introduction of ICT has enabled governments and public administration to perform its everyday tasks faster and more efficiently. As a result, many traditional internal processes, arrangements and ways of managing information in public administration have become obsolete, making reforms necessary. Consequently, processes of change and the re-engineering of public administration have been under way in many European countries in recent years and the introduction of ICT has become the reason and the driver for innovation and change in public administration.

First of all, ICT enables a more systematic management of an organisations' information, thus eliminating the need for traditional paper-based filing systems or internal

Leadership and Skills for eGovernment conducted by EIPA et al. in 2005 underlined the importance of incorporating a different approach to training and development in HR management so that organisations can reap the full potential benefits of ICT[2]. Such an approach makes a command of ICT an indispensable skill for all employees in public administration. This area of competency, better known as eSkills, encompasses a whole range of capabilities related to the operation and application of ICT systems by individuals, from basic skills, such as using a word processor or a spreadsheet, to more advanced and specialist skills where required.

Finally, ICT has increased the need for public administration to adjust its internal organisation, systems and information management to enable interoperability, permitting administrations to interact, share information and

set up common services. The importance of interoperability has increased substantially with the European integration process and the aim of achieving a common market without electronic barriers. The importance of being an enabler for better eServices, providing a better experience and fewer administrative burdens for citizens and businesses, and the importance of interoperability in today's European eGovernment scene has been acknowledged by European institutions, the Member States, the private sector and academics. Making systems interoperable opens up the possibility of developing services not only across numerous administrative bodies and at different levels, but also between different Member States and even at a pan-European level.

Interoperability is multi-dimensional. The 2007 MODINIS Study on Interoperability pointed out the equal importance of the three different layers of interoperability: technical, semantic and organisational. The technical level refers to the ability of systems to communicate with one another and successfully process the exchanged information, which makes it the easiest to achieve. However, it is more costly to realise semantic interoperability, which means making the changes necessary to enable different administrations to operate with each others' information systems, and organisational interoperability, which relates to the ability of back-office systems to coordinate and share information. Semantic and organisational interoperability require engaging in re-organisational processes and intensive exchange of experiences within public administration. Such changes are necessary mainly because old back-office/front-office coordination needs to be replaced by systems that are able to work within a culture of shared services and multi-level information exchange[3].

Transforming Government: Reducing Burdens for Citizen-Centric and Business-Centric Public Administration

Today's public administration has to be able to meet the challenges and requirements of the 21st century efficiently and effectively. Services have to be redesigned around the needs of citizens and businesses instead of around the needs of the administration. Reducing the administrative burden on citizens and businesses is the main benefit of increased efficiency and effectiveness in public administration, triggered by eGovernment and increased use of ICT. Public administration now has to move towards what is known as '*Transformational Government*': 1) it must meet and maintain the highest standards; 2) it must adopt a citizen-centric approach; 3) it must work towards minimising the burden for citizens and businesses; 4) it must learn how to take advantage of the opportunities offered by ICT, so as to promote internal reorganisation and become a 'learning organisation'; and 5) it must take a leading role in promoting innovation and become a driver for modernisation, improved quality and best-value delivery.

With the reorganisation of public administration led by the incorporation of ICT and the adoption of a citizen-centric approach to service delivery and relations with citizens, governments have developed valuable tools that can be used to reduce administrative burden for both citizens and

ICT incorporation has raised the need to incorporate new skills among leaders and public employees in order to work with the new tools at their full potential.

businesses. This means minimising or eliminating the costs linked to complying with the information requirements of public administration[4]. These include providing information, filling in forms and having to appear in person to sign a document. The European Commission and the Member States have progressively become aware that reducing the administrative burden is a key element in enhancing the overall economic performance and competitiveness of Europe and its respective countries. The European Commission has been measuring the impact of the main administrative burdens caused by EU regulations since 2007 and has set the goal of reducing this burden for businesses by 25% by 2012. Better regulation, making administration simpler and reducing the obligation for citizens and businesses to provide information have a major role to play in this. But ICT is also a crucial element in adopting the necessary measures, which include simplified questionnaires, authenticated portals, authenticated pre-filled online forms and direct online reporting, thereby making it unnecessary to appear in person. ICT consequently becomes a beneficial factor, making administration easier, less time-consuming and more cost-effective for businesses and citizens.

Within the framework of the Lisbon Strategy for Growth and Jobs, the European Union and the Member States are actively promoting the reduction of the administrative burden as a measure to minimise inefficiencies that have a negative effect on our economies and on the trust that citizens and business have in their government. Moreover, simplifying the existing procedures using ICT has the added value of fostering entrepreneurship in Europe.

Reducing the administrative burden is intrinsically linked with several dilemmas that ICT plays a crucial role in resolving. Such dilemmas are related to the need to provide better, more efficient and more effective services with better 'customer' care, whilst the resources available remain limited. Unlike the private sector, public administration cannot choose its 'customers', meaning that all businesses and citizens have to be included in its plans. It has to deliver better and more inclusive services, so methods must be found to provide the best value: more service at lower cost, or at least for the same cost. Moreover, in the context of the current financial crisis, it has to be considered that the difficulty of obtaining extra resources exacerbates even more the need to boost efficiency and effectiveness in public administration. In this case, ICT-based service delivery and customer service is a solution that allows the limited resources to be dedicated to the areas where they are most needed.

Opportunities and Challenges: Increasing Citizen Involvement, Digital Inclusion and Skills

While the opportunities opened up by ICT in public administration and public service delivery are myriad, the success of eGovernment and its implantation also depends on external factors such as digital inclusion, infrastructure that enables access and digital literacy and eSkills among citizens. The potential benefits, however, go beyond the mere provision of public services via electronic channels.

Increased citizen involvement through the use of ICT is widely recognised by European governments as a valuable opportunity to enrich democratic processes and to open more available channels to social participation, potentially giving place to an administration that is more transparent and that is better able to take citizens' needs into account[5].

Digital inclusion, or *eInclusion*, is a crucial pre-condition for eGovernment. In the case of eParticipation, moreover, it acquires greater importance than it does in the case of other eGovernment-related issues of a different nature. The provision of public services via the internet, i.e. service delivery-oriented eGovernment projects, have to rely on high ICT penetration rates in order to be successful, or at least to be profitable for the authority in question. However, in such cases, obtaining or requesting a public service through electronic channels is just one of the options available to the citizens or the businesses. Seen from an eParticipation point of view, inclusion is an issue that has to be taken into account much more seriously, since participation is related to enhancing democracy and providing citizens with easier, direct ways of interacting with government and public administration. The core principle of democracy is inclusion of all citizens in the participatory processes.

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So in relation to eParticipation, adopting eInclusion becomes a crucial issue in ensuring that no citizen is left behind with respect to the new channels of participation and democracy.

eInclusion, as defined by the European Commission, aims at ensuring that disadvantaged people are not excluded due to their lack of digital literacy, because of their age, disability, gender, income, education, or because they live in remote areas or have no Internet access[6]. eInclusion means also involving people more actively, by taking advantage of new opportunities offered by digital and technical services for the inclusion of socially disadvantaged people and less-fortunate areas.

The modern societies we live in, often called knowledge societies, are extremely dependent on information, but also have the potential to distribute knowledge in a more equal way and to offer job opportunities that overcome the traditional barriers of distance or physical space. For many of us, ICT has penetrated virtually all aspects of our daily lives, from the way we shop to the way we communicate, work, share and network. Web 2.0 has had a major impact in transforming not only the way in which citizens communicate in their private sphere, but also the way in which civil society and politics work. Nevertheless, these technologies have not reached everyone in our societies, nor have governments fully incorporated the potential of from these technologies into their service-delivery or decision-making processes. Therefore, the challenges for the future of eGovernment and eParticipation in Europe depend on the success of inclusion policies aimed at closing the existing digital divide.

First of all, closing the digital divide can provide better opportunities for both people and companies, thereby contributing to the stimulation of the knowledge economy. Moreover, better inclusion rates can enhance the learning processes and popularise lifelong-learning programmes supported by internet platforms. Secondly, public administration can benefit from higher inclusion rates as a way of reducing the cost of delivering public services. The savings would come from progressively replacing traditional services with their electronic equivalents, making interactions with citizens easier, more customisable and more efficient for governments. Thirdly, better digital inclusion can become an element of social cohesion, not only by enabling eParticipation but also by exploiting the potential for improving communication granted by the internet for community-building projects oriented to integrating marginalised groups into society[7].

eInclusion, on the other hand, presents some important challenges that European governments should be ready to meet. Such challenges are directly linked to making the benefits of ICT available to the maximum number of citizens possible by 1) improving accessibility; 2) promoting the newly available channels of participation as a means to have a more active citizenry; and 3) improving social cohesion and eliminating inequalities with regard to ICT access. Meeting these challenges requires awareness, active policies and proactive planning. Regarding the first of the challenges, governments have reacted by deploying active policies aimed at improving the current ratios of ICT penetration by promoting ICT centres, sponsored broadband access and content creation, as well as by making official websites more user-friendly and accessible.

The second of the challenges is to promote what has already been achieved, either at the local government level or at the European level. Important steps to be taken to

increase citizens' willingness to use and participate in these newly available channels include increasing the visibility of the available services and building citizens' trust in the privacy and security of electronic transactions with their governments.

Thirdly, because the full benefits of the Knowledge Society, including eParticipation[8], can only be realised if citizens have the necessary skill sets, the policies aiming at promoting digital skills and digital literacy must remain a top priority for our governments and public administration.

The 2006 Riga Ministerial Declaration on eInclusion highlighted the necessity to improve eAccessibility for the elderly and people with special needs, and to enhance competences, skills and familiarity with ICT, both in education and training, as part of the Lisbon Strategy for more and better jobs. Moreover, it stressed the need to promote socio-cultural changes that aim to embrace the benefits of the Knowledge Society, as well as to promote eInclusion in relation to EU Regional policies[9]. The November 2009 Ministerial Conference

the EU through the development of broadband connection and mobile access[11].

The most recent Eurostat data of 2009 reveals that the gap between the different Member States has to be taken into account, as do the gaps in the use of ICT between different age groups, between people with different levels of education and computer literacy, between people from rural/urban areas and between genders. According to Eurostat, the use of ICT has reached 56% of the European Union's citizens. These figures also highlight the fact that while these rates reach nearly 90% in countries such as the Netherlands, Denmark, Sweden and Finland, they are between 30% and 35% in others, including Greece, Romania, Bulgaria and Italy (fig. 1)[12].

However, even though internet connection availability and skills are directly related to the further development and success of eGovernment, the use of ICT for private matters is and will remain substantially higher than for conducting transactions with public administration. The latest statistics

Figure 1: Individuals regularly using the internet in the last 3 months (% of individuals ages 16 to 74).
Individuals regularly using the Internet for interacting with public authorities. Source: Eurostat

Legend:
- Individuals using the internet regularly
- Individuals using the internet regularly for interactions with the Public Authorities
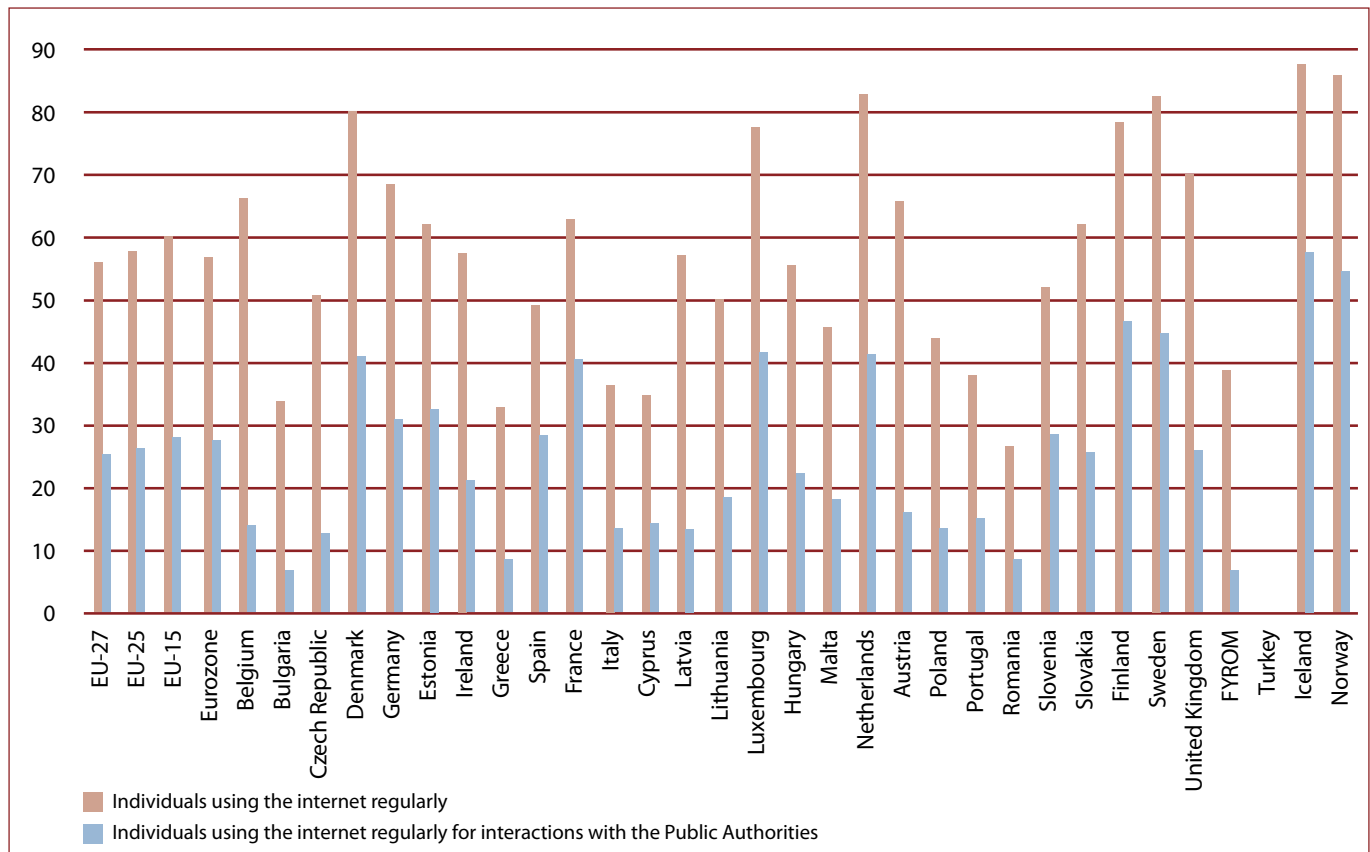
on eGovernment that took place in Malmö, Sweden further highlighted the importance of eInclusion and reinforced the commitment to achieve substantial improvements by 2015. EU governments will seek 'to empower businesses and citizens through eGovernment services designed around users' needs, better access to information and their active involvement in the policy-making process'[10]. As a result, the European Commission has launched an ambitious programme to promote inclusion under the motto 'No Citizen Left Behind', which aims to foster eInclusion in all segments of population, paying special attention to the risk groups: people who reside in remote areas, people with physical impairments and the elderly. In addition, the programme promotes the creation of infrastructures that make internet connection available in any location within

show that barely 28% of the citizens of the EU-27 used the internet to interact with public authorities at least once in the last three months and that there is a marked difference between Member States. Despite keeping a correlation with the use of the internet in private life, the rates of use for interaction with public authorities are substantially lower, reaching a peak of 55% in countries such as the Netherlands and Finland, and only 5% and 10% in countries such as Greece, Romania and Bulgaria (fig. 1)[13].

These figures reveal the urgent need for European institutions and national governments to adopt the necessary measures to increase the digital inclusion ratios, making sure that a maximum number of citizens have access to eGovernment services. This must be linked to a strong commitment to increasing citizens' trust and confidence in

using ICT for their communications with government. Trust is an important issue, since it often acts as a barrier for citizens that use the available online services. The study on Citizen Satisfaction with eGovernment, however, has disclosed that when this barrier is overcome, the number of cases in which a citizen would consider using the online channel again to obtain a service is extremely high (fig. 2)[14]. At the same time, the number of users of eGovernment solutions that eGovernment services still has good potential to increase, it reminds us that there remain aspects to be improved, mainly related to trust and inclusion. As illustrated in the top graph of figure 4, those issues that have fewer implications in terms of privacy for citizens show higher rates of usage and, therefore, a minor disparity between supply and use. However, for sensitive issues such as health, police declarations and important certificates, the

Figure 2: Likelihood of re-use of eGovernment services, per country. Source: European Commission, 2009
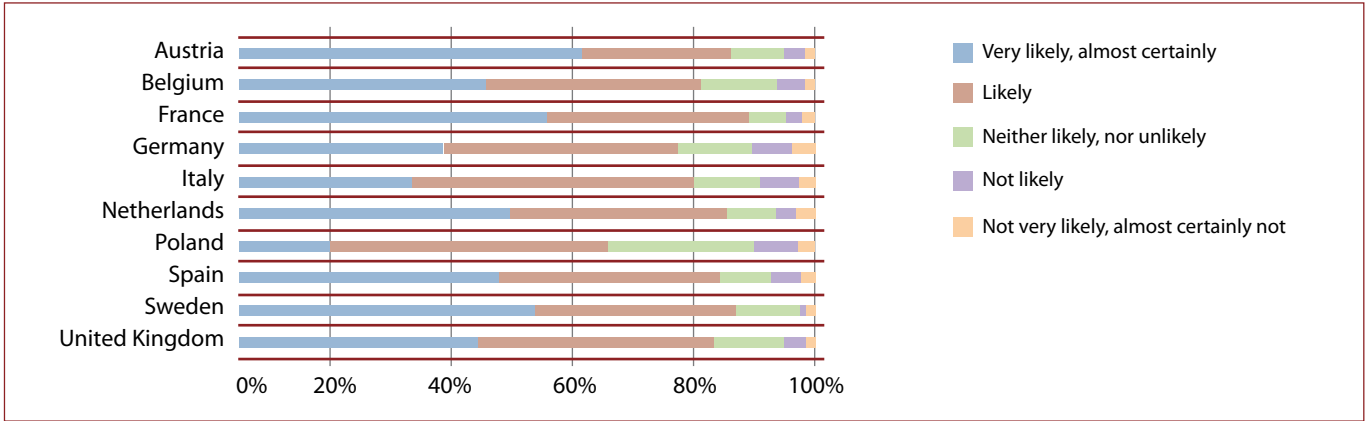
perceive increased benefits after use in comparison with the traditional channels for obtaining public services is also significant. In particular, the aspects that the users see as more beneficial are time savings, the increased flexibility of eGovernment and the simplicity of the processes.

Nevertheless, despite citizens' positive reception of the deployment of online public services, there are still significant differences between the availability of services and their actual use. The 2007 study on Online Sophistication conducted by the European Commission and Capgemini pointed out that Austria and Slovenia have the most developed deployment of eGovernment services in the EU (fig. 3)[15]. However, as seen in figure 4, the supply side is in many cases far ahead of demand. Whilst this fact has very positive aspects, meaning that the use of number of people actually using e-channels to obtain such services is significantly lower.

Finally, it is important to remark that trust increases when users receive a positive impression of the services. The longer that citizens have been using a service satisfactorily and the longer they have been accustomed to working with ICT, the higher their level of trust becomes, as well as the likelihood that they will make further use of the service. Therefore, governments should take these issues seriously into consideration and actively promote both skills and affordable/easy access for every citizen. They also need to encourage the use of online services whenever available, emphasising the benefits for the citizens and businesses in terms of comfort, time and cost saving and safety.

Figure 3: Online sophistication ranks of the EU-27. Source: Capgemini/European Commission, 2007
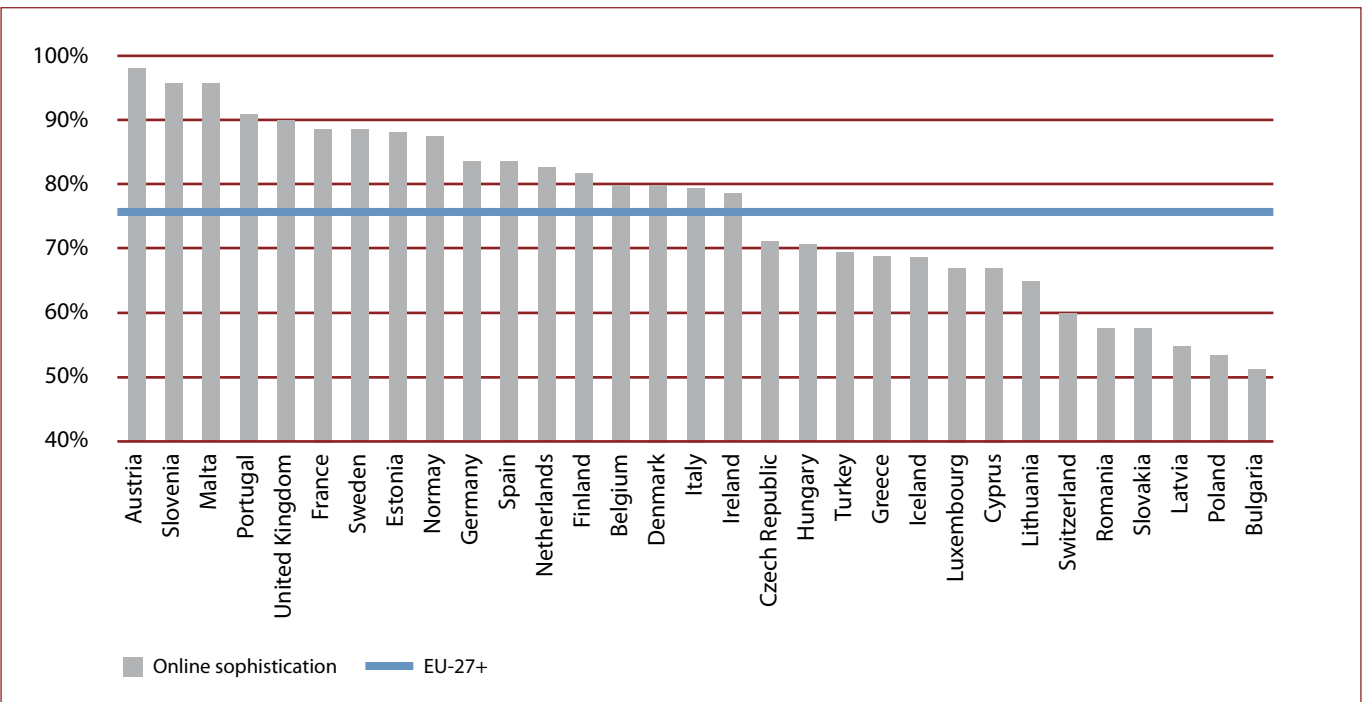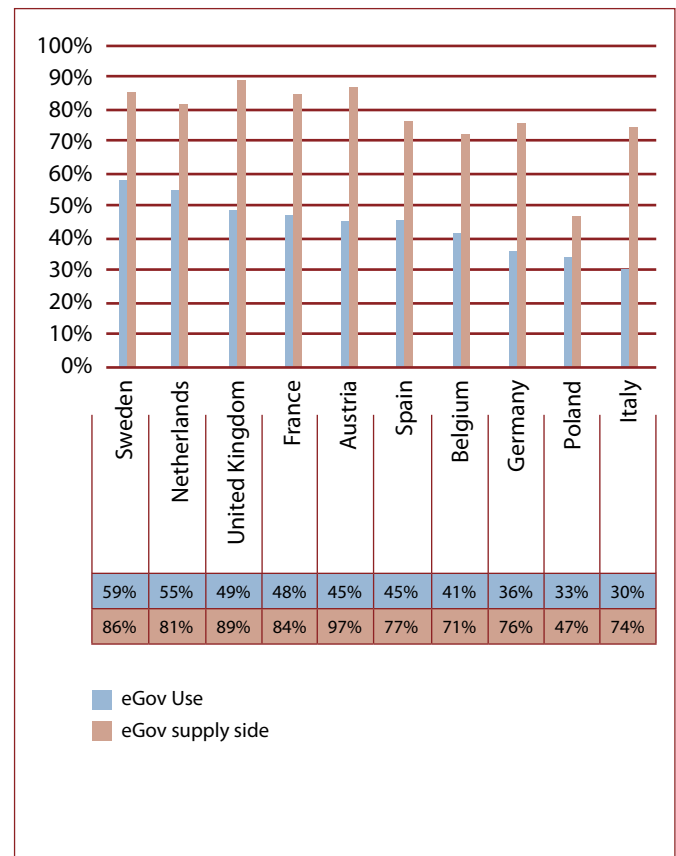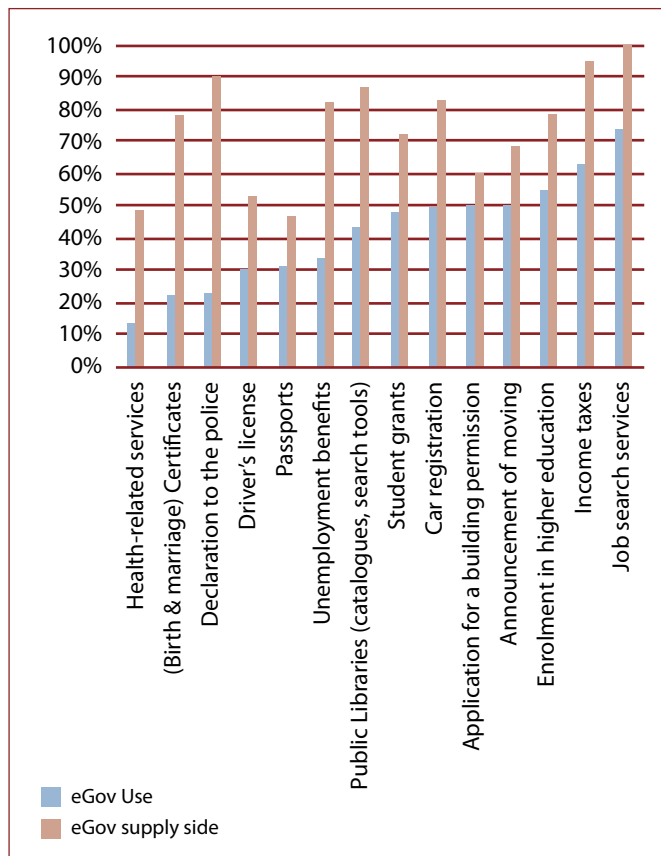
Figure 4: Figures showing the contrast between the availability of the 12 basic public services online and their respective demand. Source: European Commission 2009, p.121.

	Sweden	Netherlands	United Kingdom	France	Austria	Spain	Belgium	Germany	Poland	Italy
eGov Use	59%	55%	49%	48%	45%	45%	41%	36%	33%	30%
eGov supply side	86%	81%	89%	84%	97%	77%	71%	76%	47%	74%

■ eGov Use
■ eGov supply side

Concluding remarks

Public administration and public authorities have a leading role to play in triggering innovation by a more active use and integration of ICT. This, together with the fact that the public sector is forced to innovate as it does not have the possibility of choosing or selecting its customers, gives governments not only the responsibility of taking the lead in innovation and transformation, but also the opportunity to become best-practice models that can, at a later stage, be followed by other Member States or the private sector.

Governments and public administration are in a privileged position to develop and promote the use of new standards which, by their very nature, have to be laid down in legislation. This is the case with respect to the use of electronic signatures, certificates with full legal validity, digital ID cards, etc. Once developed, such standards become drivers for innovation within the public and private sectors, thus ensuring a safer internet and new channels that help to reduce the administrative burden for citizens and businesses. Examples of this are the many cases of banking institutions across Europe incorporating eID authentication technologies by replacing their own earlier authentication methods.

Moreover, ICT can have positive effects in areas with which it is not normally associated, such as environmental protection. The creation of standards for electronic signatures, certificates

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etc. with legal validity has made it possible to reduce the amount of printed material. Similarly, establishing standards for *Green ICT* is a sensitive area in which governments need to take the lead. Nevertheless, one must not overlook the fact that greater use of eGovernment and ICT in public administration also results in the appearance of new risks and challenges. Greater openness involves a greater chance of misuse. Therefore, issues related to ICT security and the development of secure standards are gaining importance in the implementation of eGovernment solutions as well as in regional, national and European eGovernment strategies. In this article we have shown that ICT does in fact provide great opportunities for European governments and public administration organisations to become more efficient and effective by re-organising the internal processes and information flows. If done correctly, this can ensure better coordination and ease of access to governmental services for citizens and businesses. Furthermore, the constant development of citizen-centric eGovernment solutions for the delivery of public services has provided more opportunities to benefit from ICT as a means to reduce the administrative burden for citizens and businesses. Reducing this burden, which implies cutting unnecessary costs in terms of time and money as well as increasing citizens' satisfaction with their government, is

a key point in achieving the goals of increased efficiency, effectiveness and sustainability as set out in the Lisbon Strategy.

However, the success of these policies remains dependent on the extension of ICT skills and accessibility to the whole of the population as well as on encouraging the use of existing online solutions. Greater eInclusion means better opportunities to communicate with citizens using their preferred means, channels and language, a fact that has to be considered from all aspects in the implementation process of eGovernment solutions: '*no citizen left behind*' is not a challenge to be tackled from the technical point of view.

Currently, insufficient use is being made of online services in Europe, revealing that governments must promote its use more actively and promote trust. The importance of creating trust is supported by the quality and satisfaction surveys carried out among users of eGovernment, who have manifested their willingness to use the services again once they have tried them.

Public administration has the potential and the obligation to take a leading position in implementing full use of ICT and promoting standards that can later be extended to allow its use in both the public and the private sector, extending its potential for more efficient and effective services, increased citizen satisfaction and innovation.

NOTES

*   Sylvia Archmann, Seconded National Expert, European Institute of Public Administration, EIPA Maastricht.

**   Just Castillo Iglesias, Research Assistant, European Institute of Public Administration, EIPA Maastricht.

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