

## Abstract

Through this paper a study about Information and Communication Technologies applied to the labour sector will be carried out. Specifically, it will be focused on the Catalan Employment Service and a final benchmark with the Spanish Employment Service will be carried out.

With this aim, a complete study about eGovernment and the role and relevance of Information and Communication Technologies (ICT) in this field will be the first step. Analysis about services provided by the Catalan Employment Service and its multichannel dimension is the second step. Finally, a framework about how to benchmark public websites in the labour sector focused on the Catalan Employment Service website evaluation will be done. The aim is to build an effective and multi-dimension analysis tool regarding both operational and efficiency terms. The proposed tool is built gradually through the study and evaluation of previously selected studies, taking into consideration all dimensions and concrete parameters needed in order to carry out a complete evaluation that will bring an added value contribution and reach reliable results. The proposed model pretends to be an added value contribution in the sense of having a tool for a complete assessment of the website in both dimensions breadth and depth as a unique unit of assessment, and reaching deeper levels of evaluation such as effectiveness in its aims or eDemocracy assessment.

With regard to the results obtained, it can be said that both websites would get a pass when being evaluated by the citizens as the main stakeholder. Even though, there are relevant points to address in order to create most satisfactory websites and assure its sustainability, ensuring the multi-channel dimension of eGovernment. The SOC website has structural problems and should create a better vertical integration in order to assure that users will not feel lost when searching for specific information. By contrast, the 'SEPE' website while being better structured, should manage in a more efficient way the huge amount of information available, assuring users will find useful information in a faster way.

Both website should improve little aspects of navigation and accessibility promoting eInclusion in order to make users feel more comfortable when surfing websites and.

Furthermore, both websites should focus on promoting eDemocracy. Although both have good images from the citizen's viewpoint, reflected in factors such as Reliability and Trust & transparency being highly rated, both websites must enable eParticipation including tools that enable two-way communication between government and citizens.



# Summary

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# Preface

## 1.1. Project origin

Within the current context of economic crisis, being more affected the developed countries such as European countries and North America, new problems to deal with as well as challenges are coming up for developed economies. One of the main problems within these economies, moreover for the Spanish and Catalan economy, is the high unemployment rate of 26,02 % and 23,94 % respectively, reaching 52,14 % for the young between 16 and 24 years old [22] (IV trimester 2012). This is a problem for the country's sustainability that must be addressed on the short term.

Within this context, the Government takes a crucial role regarding both labour policymaking and other initiatives to promote occupability among the unemployed as well as increase efficiency in the public sector. In this sense, the Catalan Employment Service in Catalonia, known as 'SOC', has the aim to promote employment giving guidance, training and employment opportunities to the citizens.

## 2.1. Motivation

The motivation of the proposed project comes from the need to provide citizens with an efficient tool for job seek processes as well as provide companies with help and guidance through the talent search process and other issues such as promoting entrepreneurship. Moreover, the project is based on the will of promote efficiency and effectiveness within the public administration that spent high amounts of money in these issues. Taking into consideration the labour and economic environment in Catalonia, this is an essential need.

In this sense, the institution that manages the labour issues within the Catalan government, the Catalan Employment Service, should be evaluated. Thus, creating an efficient and well-structured tool to evaluate the 'SOC' website and its objectives regarding employment promotion as a public institution is the best way to conclude which are the strengths and points to be improved.





# Introduction

## 1.1. Objectives

In this paper, the aim is to develop a multi-dimensional framework for evaluating the web sites of public labour eServices, focused on the Catalan employment Service, by analyzing the existing research on information technology projects from different viewpoints in this field.

This will be accomplished by using a multi-dimensional framework that delivers a fresh research perspective into the evaluation of information technology in public eServices within the labour market taking into consideration all the relevant aspects for users as well as the efficiency in its aims and objectives as a public institution.

Following this path, the final purpose is to be able to reach certain conclusions about the efficiency, suitability to the requirements needed and points to be improved regarding the Catalan Employment eServices (SOC) as well as carry out a final benchmark from application of the same analysis to the Spanish eService employment ('SEPE').

## 1.2. Scope of the project

The project covers the Catalan Employment eServices study and analysis including all the various range of initiatives taken by the above named institution, as well as the multi-dimensional framework including all the relevant aspects for the usage evaluation, efficiency and viability and a final comparison to the Spanish Employment eServices results obtained from the same analysis.



## 2. eGovernment

eGovernment, defined by the European Commission, is about ‘using the tools and systems made possible by Information and Communication Technologies 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 organizations and processes, and changing behavior so that public services are delivered more efficiently to the people who need to use them. Implemented well, eGovernment enables all citizens, enterprises and organizations to carry out their business with government more easily, more quickly and at lower cost’.

The introduction and increasing use of ICT, particularly with the enablement of interoperability and development of digital inclusion policies, has made public administrations across Europe engage in transformation processes which aim is achieving a more efficient, effective and friendly delivery of public services focused on innovation and public spent saves. Stimulated by the IT industry, eGovernment become a key word in many policy proposals. This approach, also known as “Transformational Government”, has become a driving force for innovation and reduction of administrative tasks in European public administration, taking advantage of the possibilities that the most recent technological developments have opened. The opportunities presented are enormous although there are also challenges to address in the implementation of such transformation such as ensuring digital access for all citizens, and taking into account the multidimensionality of interoperability to enable sharing of governmental information across Europe. Together with schools and universities (eLearning) and the private sector (eCommerce and eBusiness), governments also had to prepare for the new millennium. The advocates of eGovernment argue that only governments ‘online’ would survive in the future.

For this reason, European Union institutions have recognized the importance of investing efforts and prioritizing 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. The aim is to adopt a new market-oriented approach regarding the delivery of public services in order to be able to minimize bureaucracy and administrative tasks on citizens and businesses, increasing their satisfaction as well as efficiency and effectiveness of public administration back-office functions by enabling a modern high quality public administration.

According to the Gartner Group survey, the transition from government to eGovernment is characterized by four following stages.

- i. Presence stage: Presence of government on the Internet.
- ii. Interaction stage: After the presence stage, government will be able to interact with its citizens via the Internet.
- iii. Transaction stage: The interaction stage will be succeeded by a transaction stage, when the communication between government and its citizen via the Internet is connected with public service delivery.
- iv. Finally, because of electronic service delivery, government will transform its organizations and institutions.

The first three stages focus on improving the form of government and establishing much of the basic eInfrastructure while the last stage focuses on designing a new form of government.

## **2.1. Role of ICT for innovation, efficiency and change in public administration**

The introduction of ICT has enabled governments and public administration to perform its everyday tasks faster and in a more efficient way. As a result, many traditional internal processes and ways of managing information in public administration have become obsolete, making reforms necessary; processes of change and the re-engineering of public administration have been under way in many European countries in recent years. That is why the introduction of ICT has become the reason and the driver for innovation and change. ICT enables a more systematic management of organizations information eliminating the need for traditional paper-based systems or internal communication systems, which are less efficient. In this sense, ICT is not only an element of change that enables more efficient performance, but also enables substantial cost and time savings.

Moreover, with ICT implementation and eServices new channels of service delivery are opened, making transactions with public administration more convenient for citizens and businesses. This has brought about two parallel phenomena: The disappearance of services which are no longer necessary and the creation of new services responding to new demands. This makes it possible to reallocate resources to where they become more necessary and, from the users point of view, alleviates the load of having to deal with administrative obligations.

There are new opportunities to offer better and simplified front-office service due to the fact that public administration back-offices become more integrated and more able to share data and resources. The changing role of citizens in 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.

As a result, the introduction of ICT has made essential for leaders and public employees to acquire new skills known as eSkills in order to use the new tools to their full potential. There is a whole range of capabilities from basic skills, such as using a word processor or a spreadsheet, to more advanced and specialist skills.

As a last step, ICT has increased the need for public administration to adjust its internal organization, systems and information management to enable interoperability, interaction between different institutions and information share in order to be able to 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 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 European level.

As it can be seen below, among the countries within ODCE the investment in ICT has gradually been higher during last decades.

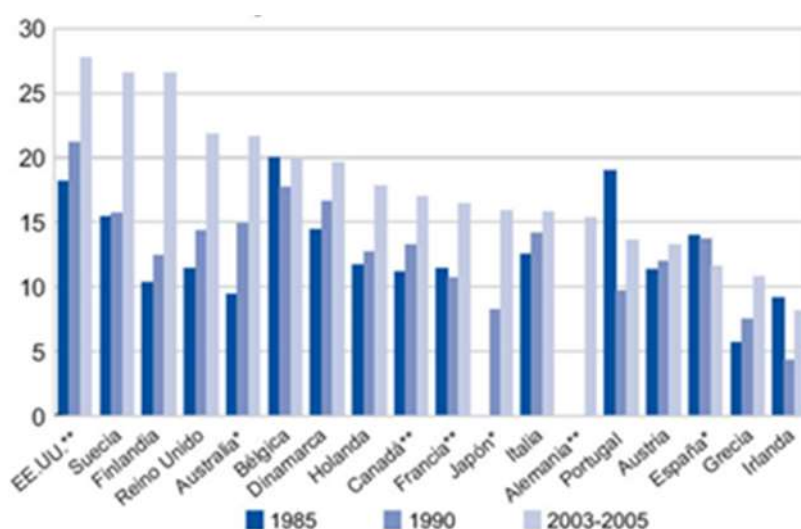


Fig 2.1. Investments in ICT in ODCE Countries [1]

It is interesting to observe that the most developed countries with the most powerful economies such as EE.UU, Sweden, Finland or UK have invested higher amounts in ICT deployment. Among the countries with less ICT investments there are the ones that are having more trouble in the present economic crisis such as Ireland, Greece or Spain.

Among the latter studies done in the eGovernment field it can be found a common way to evaluate the eGovernment performance in that field: The eGovernment development index [2]. The top 10 performers countries in Europe measured by eGovernment development index and the eGovernment deployment evolution can be seen in Figure A.1 and A.2 in exhibit A. All areas within Europe have increase its ICT development through the last three years, although there are noticeable differences that should be addressed.

The 2007 MODINIS Study on Interoperability [23] pointed out the equal importance of the three different layers of interoperability:

- i. Technical: 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.
- ii. Semantic: Semantic interoperability means making the changes necessary to enable different administrations to operate with each others information systems, and organizational interoperability, which relates to the ability of back-office systems to coordinate and share information. It is more costly to implement than the technical level.
- iii. Organizational: Semantic and organizational interoperability require engaging in re-organizational 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.

## 2.2. The 'Transformational Government' concept

The 'Transformational Government' is a new concept based on the implementation of ICT policies in order to redesign services and reduce the workload for citizens and businesses due to the increase in efficiency and effectiveness. This new concept is based on five basic statements:

- i. Encourage to meet the highest standards.
- ii. Adopt a citizen centric approach.

- iii. Minimize the load for citizens and businesses.
- iv. Learn how to take advantage of the opportunities offered by ICT promoting internal reorganization and becoming a 'learning organization'.
- v. Take a leading role in promoting innovation and modernization, in order to reach the best-value delivery.

In this sense, ICT implementation is referred to supporting the implementation of eServices and creating the techno-structure to enable the conditions for eGovernment. The principal issue is to improve citizen-focused services and to get government authorities online and thus involved in digital transactions. A trustworthy and secure infrastructure is a relevant part of this principal issue. Examples include the provision of access to laws and regulations, the streamlining of basic data, and the development of the electronic signature and biometry.

### **2.3. Benefits from implementing ICT in public administration**

In the sense of the 'Transformational Government' concept, governments have developed valuable tools to reduce administrative tasks load for both citizens and businesses. The objective is to make administration easier, less time-consuming and more cost-effective for businesses and citizens. Both people and paper can be saved when public administration connects to the Internet. Procedures and routines are automated in order to save on expensive civil servants.

There has been many efforts done in the way of making a better regulation, making administration simpler, reducing the obligation for citizens and businesses to provide information and minimize or eliminate the costs linked to complying with the information requirements of public administration such as providing information, filling in forms and having to appear in person to sign a document. This changes also include adopting other measures such as including simplified questionnaires, authenticated portals, authenticated prefilled online forms and direct online reporting, thereby making it unnecessary to appear in person. Reducing these administrative tasks is a key element in enhancing the overall economic performance and competitiveness of Europe and its respective countries. In this sense, as it can be seen in the Figure 2.2 below, the United Nations eGovernment Survey (2012) points out the relation between the level of ePerformance and the Gross National Income per capita.

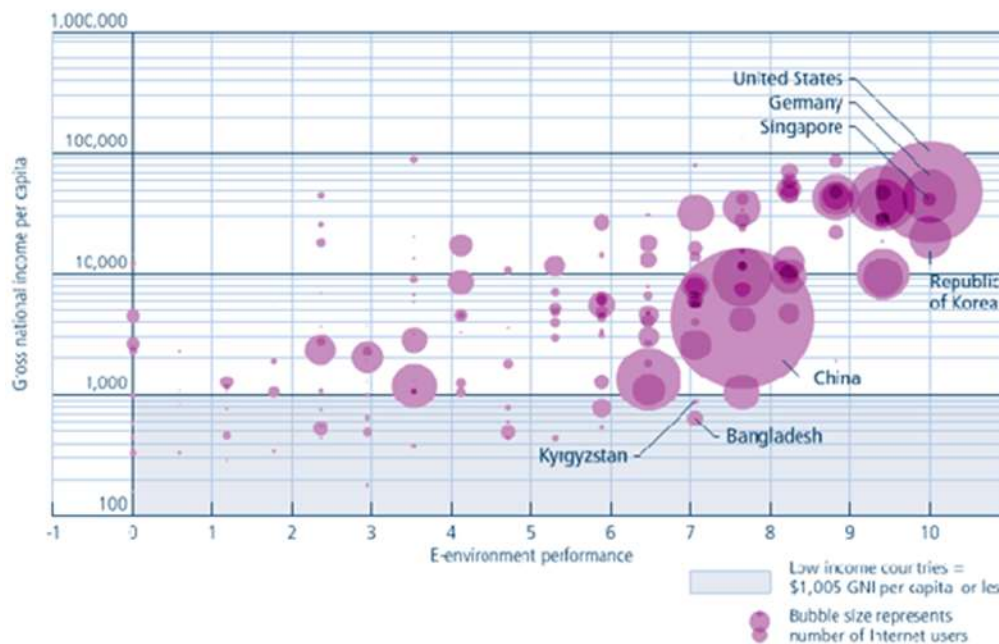


Fig 2.2. Relationship between ePerformance and Gross National Income per Capita [2]

As it can be clearly seen, the higher is the level of ePerformance the higher is the Gross National Income per capita level, due to the fact of promoting efficiency and competitiveness aforementioned.

Moreover, several decades ago early research demonstrated that information and communications technology does not only make society more efficient and effective, but it also fundamentally affects our world views and the social, organizational and political foundations on which society is built (Winner, 1977). In this sense, it can be seen that 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, while 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.

However, the benefits from ICT deployment do not limit to the economical ones. 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 marginalized groups into society. Moreover, ICT also have positive effects in areas with which it is not normally associated, such as environmental protection. The creation of standards for electronic signatures or certificates with legal validity has made it possible to reduce the amount of printed material.

Even though, while the opportunities opened up by ICT in public administration and public service delivery are widely known, the success of eGovernment and its implantation also depends on external factors such as digital inclusion, infrastructure that enables access, digital literacy and eSkills among citizens.

Due to modern technology, it is possible to compare the performance of an organization to other organizations, whether it is in the same policy field in another country or in another policy field in the same country. The results of benchmarking can be used to redirect the chosen strategy. So ICT makes benchmarking a more feasible option.

## **2.4. Opportunities and challenges regarding ICT implementation**

The potential benefits go beyond the mere provision of public services via electronic channels and the economical saves associated explained above. Increased citizen involvement through the use of ICT is widely recognized by European governments as a valuable opportunity to enrich eDemocracy, a new concept that has been developed during the last decade regarding enabling democratic processes and opening more available channels to social participation, potentially giving place to an administration that is more transparent and that is better able to give effective response to citizen's needs.

On the other hand, digital inclusion or eInclusion is a crucial pre-condition for eGovernment to be successful. In the case of eParticipation it acquires greater importance than it does in the case of other eGovernment issues of a different nature. The provision of public services via the internet must rely on high ICT penetration rates in order to be successful or at least profitable for the authority in question. As the core principle of democracy of all citizens in the participatory processes, eInclusion is a great challenge that has to be taken into consideration much more seriously, since participation is related to enhancing democracy

and providing citizens with easier and direct ways of interacting with government and public administration. The aim is about ensuring that no citizen is left behind with respect to the new channels of participation and democracy. As defined by the European Commission, it is also about ensuring that disadvantaged people are not excluded due to their lack of digital literacy, age, disability, gender, income, education; or because they live in remote areas or have no Internet access. It 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. Regarding this field, the main objective is to close the existing digital divide by reaching the objectives herein:

i. Improving accessibility:

Governments have reacted by deploying active policies aimed at improving the current ratios of ICT penetration by promoting ICT centers, sponsored broadband access and content creation, as well as by making official websites more user-friendly and accessible.

ii. Promoting the newly available channels of participation as a means to have a more active citizenry:

Promote what has already been achieved increasing 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 governments. The relevance of this issue is clearly stated in the study on Online Sophistication conducted by the European Commission in 2009. Despite citizens positive reception of the deployment of online public services, there were significant differences between the availability of services and their actual usage levels. The study pointed out that the supply side is in many cases far ahead of demand, as it is seen in Figure A.3 in exhibit A. It is interesting to see that the issues that have fewer implications in terms of privacy for citizens show higher rates of usage and a minor disparity between supply and use. However, for sensitive issues such as health, police declarations and certificates, the number of people actually using eChannels to obtain such services is significantly lower. Here it can be clearly seen how important trust is in eGovernment services usage, as gaps between eGovernment usage and eGovernment supply in services with less trust involvement relevance are less important than the ones for activities that have a high component of truth. Thus, there is still a long way to reach the best usage standards.

iii. Improving social cohesion and eliminating inequalities with regard to ICT access:

Citizens must have the necessary eSkills in order to reach the global objectives and take the most advantage of the ICT implementation. Therefore, the policies aiming the promotion digital skills and digital literacy must remain a top priority for governments and public

administration. This focus can be seen in the November 2009 Ministerial Conference on eGovernment that took place in Sweden where they highlighted the importance of eInclusion and reinforced the commitment to achieve substantial improvements by 2015 or in the 'No Citizen Left Behind' plan launched by the European Commission to promote 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). eGovernment usage has been limited and has not kept up with the last fast growing provision and availability of eServices. The different speed and growth rate between eService availability and eService take-up is still substantial as it can be seen below.



Fig 2.3. eGovernment usage growth rate behind eGovernment availability growth rate [3]

### 2.4.1. Spanish scenario

Data from a study conducted by the European Commission [5] shows the Spanish situation regarding eSkills and eInclusion, as it can be seen in Figure 2.1 herein.

SPAIN				
		Score	Max score	Rank / EU27
eSkills index 2010		1	5	24
Digital literacy index 2010		2.5	5	15
ICT employment (in % of total employment 2008)		1.97 %	2.23 % average EU27	15
Digital literacy skills of the population	Individuals with high level of computer skills 2009	27.7 %	24.9% average EU27	11
	Individuals with high level of Internet skills 2007	8.1 %	8% average EU27	12
	Individuals using Internet (last 3 months) 2009	60%	65% average EU27	17
Global competitiveness Index		4.59	7	13

Table 2.1. eSkills and eInclusion in Spain [5]

The study concludes that Spain population has an average level of computer and internet literacy among the European countries with no particular strengths in eSkills and digital literacy related fields. Spain shows a below-average performance with regard to initiatives in eSkills, eInclusion and digital literacy policy intensity area. The conclusion highlights that Spain is likely to continue with a sub-optimal performance on this fields endangering the future country competitiveness and should intensify its policy initiative in the area in order to reach an optimal competitiveness level. Even though, by the time when the study was conducted (October 2010), Spain had an average ranking (rank 13) on the Global Competitiveness Index (GCI).

Data from the INE [22] regarding eSkills and Internet usage show that 72,2 % of the population has used Internet during the last three months. 66,7 % of homes have Internet access, that makes a total amount of 10,4 million homes. The broadband usage has also increased to 2 of every 3 homes. Half the Spanish population surf the Internet every day and 56% of those have mobile Internet access. However, this data compared with other countries among EU show that even Internet users and eSkills among Spanish population have increased, Spain is still at the bottom of the EU sharing positions with the less developed countries from south Europe. So Spain has still a long path to take, as illustrated in Figure A.4 in exhibit A.

In this scenario government initiatives play a key role. Regarding the Spanish strategy, there is one clear example. During the latter years the Spanish government has worked on the implementation of a strategic program known as 'Plan Avanza 2'. This program contains the basic strategy of the named government regarding the Information Technology society focused on the purposes stated herein:

- i. Communication infrastructure improvement working towards a no-paper administration based on the ICT implementation.
- ii. Working towards a common strategy in order to profit from synergies.
- iii. Prioritization of resources for the most worthwhile and profitable investments.
- iv. Focusing on increasing the number of ICT users.

One actual example can also be found in the 'Literacy Plan and digital training for Barcelona 2010-2015' conducted by the Barcelona City Council from 2009 to 2015 whose main objective is to assess the state of the current situation and evaluate the actions already performed. Further to define a joint strategy on digital literacy and provide training over a period of 5 years as well as giving special attention for closing existing gaps in technological skills. Within this plan, the aim is to:

- i. Train 12.500 professionals in technology to improve their technological skills.
- ii. Give the chance to 12.000 young people of improving their professional orientation, adding technological competition to their orientation process.
- iii. Technology training for 22.000 unemployed people.
- iv. Participation in ict programs for 1.200 individuals aged 55 years or more.
- v. Training in basic technology for 30.000 further citizens.

## 2.4.2. European scenario

Data from EUROSTAT regarding the European scenario, as it can be seen in the Figure 2.4 herein, shows the demand / supply relation within different scenarios regarding eSkills intensity initiative.

EU27, broad definition of e-skills	2010			2015		
	Demand for e-skills	Supply of e- skills	Demand/ supply difference	Demand for e-skills	Supply of e- skills	Demand/ supply difference
Back to normal	4,852,700	4,876,200	-23,500	5,445,700	5,061,600	384,100
Investing in the future	4,870,800	4,876,200	-5,400	5,646,700	5,067,200	579,500
Turbo knowledge economy	4,899,900	4,876,200	23,700	5,927,700	5,258,500	669,100
Tradition wins	4,873,200	4,876,200	-3,000	5,102,300	4,973,500	128,900
Stagnation	4,839,500	4,876,200	-36,800	5,038,700	4,952,200	86,500

Fig 2.4. European eSkills demand and supply by scenario [5]

The forecasts suggest that demand will exceed supply in the EU27 by 2015 even in the most optimistic scenario. That means that there are still big challenges in eSkills and eInclusion fields, as well as a long way in promoting these abilities among the European population in order to be able to reach the maximum levels of effectiveness and competitiveness.

Data from EUROSTAT 2009 also reveals that the gap between the different European States has to be taken into account, as do the gaps in the use of ICT between different age groups, people with different levels of education and computer literacy, people from rural or urban areas and between genders, as it can be seen in Figure A.5 in exhibit A.

According to Eurostat, the use of ICT and the Internet has reached 56% of the European Union citizens. While this rate reaches nearly 90% in countries such as the Netherlands, Denmark, Sweden and Finland, they are between 30% and 35% in other countries such as Greece, Romania, Bulgaria and Italy, as can be seen in Figure A.6. in exhibit A. As it can be seen, the use of ICT for private matters is substantially higher than for conducting transactions with public administration. The statistics show that barely 28% of the citizens of the EU-27 (Eurostat, 2010) used the internet to interact with public authorities at least once in the last three months by 2009 and that there was a marked difference between European countries. 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 Norway, and only between 5% and 10% in countries such as Greece, Romania and Bulgaria. Even though it can be figured out that these statistics have changed since 2009 and that inclusion rates have probably increased, they reveal the need for European institutions and national governments to adopt new measures to increase the digital inclusion ratios, making sure that the maximum number of citizens have access to eGovernment services. This must be linked to a strong commitment to increasing citizen's trust and confidence in using ICT for their communications with government. Trust is an important issue, since it often acts as a big barrier for citizens that use the available online services. When this barrier is overcome, however, the number of cases in which a citizen would consider using the online channel again to obtain a service is extremely high as it can be seen in Figure 2.5.

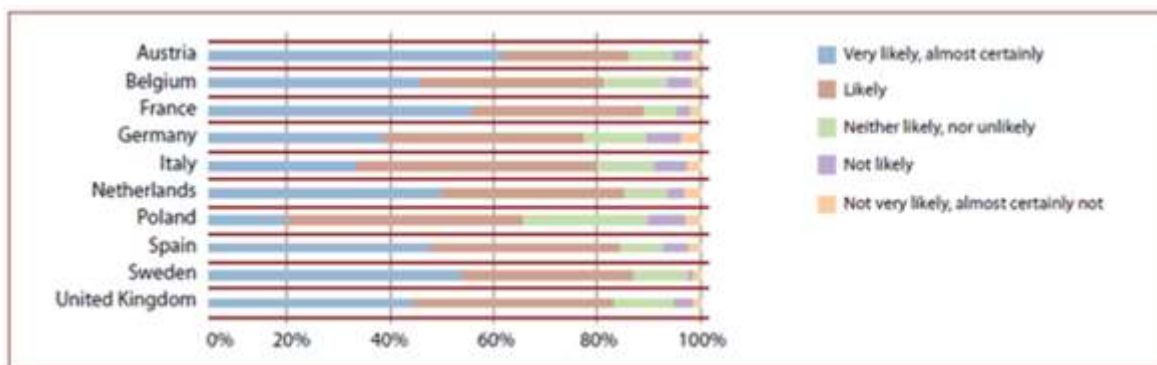


Fig 2.5. Likelihood of re-use eGovernment services per country [4]

At the same time, the number of users of eGovernment solutions that 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.

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 eSkills and affordable and easy access for every citizen emphasizing the benefits in terms of comfort, time and cost savings.

## **2.5. Public administration taking the lead in ICT implementation as a model and a driver for efficiency and quality**

Public administration has a leading role to play in promoting innovation by a more active usage 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 the responsibility of taking the lead in innovation and transformation and the opportunity to become best-practice models that can, at a latter 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 such as the use of electronic signatures, certificates with full legal validity, digital ID cards or banking institutions across Europe incorporating eID authentication technologies by replacing their own earlier authentication methods.

Once developed, these standards become drivers for innovation within the public and private sectors ensuring a safer internet and new channels that help to reduce the administrative tasks load for citizens and businesses.

In conclusion, 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.



### 3. The labour market

#### 3.1. The spanish labour market

For most of the last thirty years, the Spanish unemployment rate has been very high and cyclical. Spain entered the European Monetary Union in 1994 with the highest unemployment rate at 24 %. In the strong growth period that followed, the unemployment rate declined substantially to reach 8 % in 2007, a number which is still high in comparison with other euro area countries. However, this did not really reflect a structural improvement. As the domestic economic cycle turned and the global financial crisis starting in 2008, unemployment went back to 20 %, reaching 26,02 % in 2012 (INE, IV trimestre 2012). The incidence of unemployment is especially high for youth, when reaching 52,14 % for the young between 16 and 24 years [22].

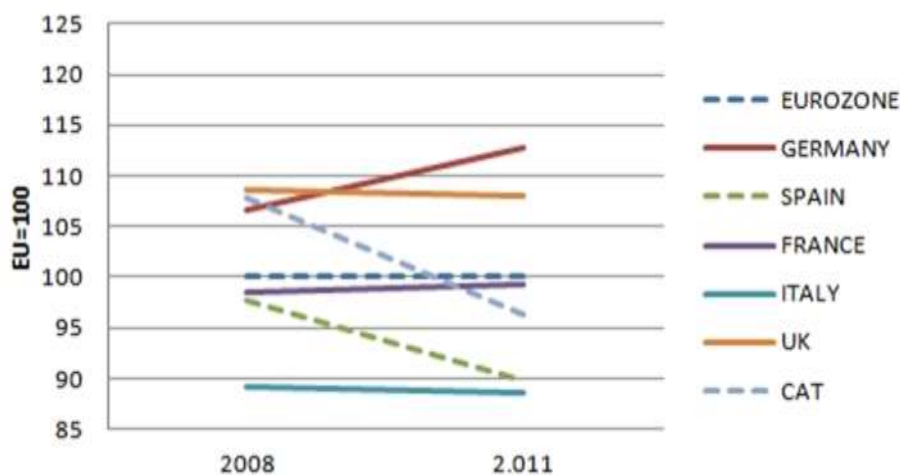


Fig 3.1. Employment rate evolution 2008 - 2011 [22]

Spain's unemployment rate has averaged 16.2 % since 1980 and has been the highest unemployment rate among the EU-15 for most of the period. During the boom years, the unemployment rate and its divergence from the EU-15's was reduced considerably thanks to strong employment creation, but even then it was still above 8 %. With the crisis, the differential has increased substantially again, despite a similar fall in other countries. With wages and average working hours increasing for the Spanish workers, the output fall is reflected in strong employment declines.



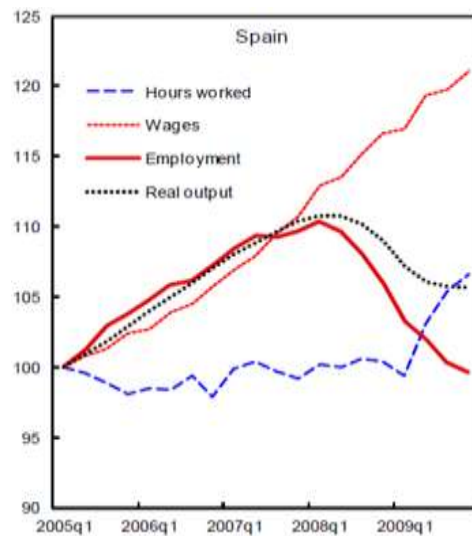


Fig 3.2. Hours worked, wages, real output and employment in Spain [6]

There are several problems to be addressed within the Spanish labour sector. Mainly its high duality, with about thirty percent of workers in temporary (fixed-term) contracts, which could be addressed by lowering the high employment protection of permanent workers and by restricting the regulation of temporary contracts. There does not appear to be a trade-off between reducing the share of temporary workers and reducing the unemployment rate. In fact, the decentralization of collective bargaining and the reduction of the protection of permanent workers need to be enacted jointly to effectively reduce the unemployment rate.

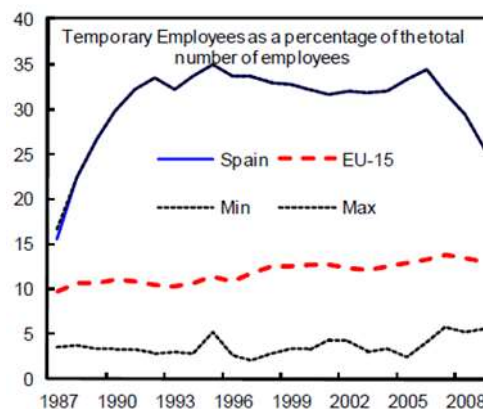


Fig 3.3. % of temporary employees in Spain and EU-15 [6]

A higher share of part-time workers instead of temporary workers is positively associated with lower unemployment, suggesting that raising the share of part-time workers from its currently low level could be associated with substantial benefits in terms of lower unemployment.

Another problem is collective bargaining, which takes place at the intermediate level and constrains wage flexibility. The unemployment rate could be substantially reduced by effectively decentralizing collective bargaining, thereby reducing excessive wage demands and allowing more wage flexibility. Reducing unemployment benefits and lowering the tax wedge would help reduce unemployment by lowering the cost of labor.

The last issue to take into consideration regarding unemployment rate reduction is product market regulation. Deregulation, however, can have contradictory effects: Deregulating product markets reduces unemployment by boosting activity and labor demand; on the other hand, it tends to increase the share of temporary workers by increasing competition and the need for companies to be able to adjust quickly so it should be combined with offsetting measures.

## **3.2. The labour policy**

### **3.2.1. Introduction**

Data from EUROSTAT for 2005 show that the member states of the European Union (EU-15) spent 2.2% of their GDP on implementing labour market policies. This figure ranged from 0.2% in Estonia to 4.1% in Denmark. In Spain, the amount spent on labour policies represented 2.1% of its GDP, just slightly below the European mean. Labour market policies include a set of relatively heterogeneous public actions and measures. Indeed, there would seem to be no generally accepted definition as to what should or should not be included within this package of policies. However, they typically include all those measures directed at the unemployed and the improvement of the job market, as well as measures that involve no public expenditure but which have a wide impact on the job market (including legislative changes that affect wage-setting mechanisms, the flexibility to hire and fire workers and the organization of working hours).

The labour market policies are classified, following the OECD classification, between passive and active policies. Passive policies are all those measures with the purpose to improve the situation of the unemployed and which try to guarantee them certain levels of income. By contrast, active policies are all those measures with the purpose to have a direct impact on the operation of the job market in terms of increasing labour demand (be it across the board or for just one specific group of workers that faces particular difficulties in finding

work), or improving the adjustment processes between supply and demand in the labour market such as the organization of worker training programs, promoting geographical mobility and improving channels of information between companies and workers). These kind of policies are born from the realization that at given moments the characteristics of the unemployed (skills and geographical location) do not match those of the job vacancies, resulting in long-term or structural unemployment. Active labour market policies, therefore, seek to, improve training or to promote worker mobility to enhance their capacity to fill job vacancies. However, other types of active policy do aim to create new jobs, either through the direct creation of work in the public sector or the awarding of financial incentives like subsidies linked to the creation of jobs which, at times, might be aimed at developing new production practices. However, active policies of this kind have come in for considerable criticism as they are high cost and tend to be affected by opportunistic behavior (deadweight effect), i.e., the subsidy is paid to create jobs that would have been created anyway.

The relative importance of these two types of policy within the labour market spent has fluctuated over time depending on a range of factors such as the phase of the business cycle, the health of its public finances or the rate of unemployment at any particular time. Based on the explanation above, it is quite logical that in the latter years active policies have acquired greater relevance due to the fact that passive policies do not contribute to a reduction in unemployment but they only help to improve the situation of the unemployed until they find work and they were designed when there were no big problems for finding a new job. In fact, today, in the EU-15 approximately 40% of the budget linked to labour market policies is spent on active policies, with the remaining 60% being dedicated to passive policies as it can be seen in Figure A.7 in exhibit A.

### **3.2.2. The Spanish scenario**

Regarding the Spanish scenario, the active policies spent stands at 0.7% [7] as it can be seen in Figure A.8 in exhibit A. There have been some micro econometric studies conducted in Spain (Mato and Cueto, Arellano (2009)) that show a positive effect on the unemployed that have participated on these programs: The first study shows that the job training program increases the probability of being in work by roughly 8 to 9% while the second confirms the finding that training reduces the time spent out of work.

An important factor to bear in mind when evaluating active labour market policies in Spain is the process of decentralization within the area in recent years. Each Autonomous Community in Spain has the power to determine the most suitable policies to adopt and the best way to implement them. That is the reason why the Spanish labour market has been characterized by a high degree of variation in its regional unemployment levels, a fact that might lead to even greater differences in the application of active labour market policies.

The case of Catalonia is especially interesting since within this process of decentralization, it was the first to take charge of occupational training in 1992. Nowadays, this fact is exemplified by the Catalan Service Employment ('SOC'), which will be discussed below.

### **3.3. The ICT relevance in the labour market**

The extension of Information and Communication Technologies, mainly the Internet, to economic activity is changing the labour market in many different ways such as the increasing demand toward workers with skills complementing the new technologies, job recruitment modes, collective worker activity, the way unions communicate their message or amount of hours worked.

Positive link was found between computer use and hourly earnings in data for the early 2000s and finds a similar positive link between Internet use and hourly earnings. Because the Internet is a low cost medium for transmitting information, the Internet recruitment business has been one of the big successes on the Web. Even though this effect is also uncertain because the lower cost of search could also induce workers to search over more jobs and firms to review more applicants, thus increasing time searched; there is no doubt that the Internet becoming a medium for job search and recruitment produces better matches. The Internet is also changing the way trade unions operate in several important areas. The Internet and IT allow unions to provide customized services to members, to improve the flow of labour news around the world, potentially producing a new internationalism among activists in order to be able to organize workers over the Web outside of workplaces or to conduct disputes with employers by providing information on issues without the intervention of the media as well as to improve union democracy.

Moreover, ICT development and the Internet have enabled labour productivity to grow at faster rates (it is not only what you do but what the program does that determines productivity and thus influences the wage), have increased the market flexibility and allowed workers to work at home more easily, enabling teleworking. There is no doubt that using these technologies has had substantial impacts on labour market outcomes and the way the job market and labour institutions function.

### **3.4. Job Search and Recruitment through Internet in Spain**

Job search and recruitment are major activities on the Internet. Each week millions of people around the world search job boards or corporate sites for vacancies, and many apply for jobs on-line as well. In addition, millions of workers post their resumes or CVs at recruitment web sites in the hope of attracting job offers. In addition, all large firms advertise

jobs on their web sites and on internet recruitment firms. As a result, Internet recruitment firms have been one of the big successes of this world. Several advantages of Internet job recruitment can be highlighted:

- i. Time-saving: Both the job seeker and the employer have a considerably time save within internet recruitment. They are able to focus on what is more interesting for them and can easily discard the information that does not appeal to them.
- ii. Anonymity: This is a great advantage for the company who looks for employees. Through Internet recruitment they are able to hide to their competitors which are the areas whose have a biggest expansion.
- iii. Cost-savings: Companies have considerably cost savings improving their efficiency within the internet recruitment taking advantage of the specialized firms on the internet recruitment area. The Employment Management Association estimates that a hire obtained by the Internet costs a firm one fifth as much as a hire obtained using print media.
- iv. Better matching between workers and vacancies: With internet presence more applicants can easily access the information or offers available, so the company might be able to do a better selection in order to obtain the most suitable candidate for the vacancy.

Although there are also some disadvantages:

- i. Talent loss: Through internet recruitment by specialized firms the scope of the possible candidates is considerably reduced in order to be able to distinguish the candidates that can fit the best. However, during this process the aforementioned firms may also discard great candidates for the vacancy. This might also happen when traditional labour processes, so it can not be considered a disadvantage just for internet recruitment.
- ii. Limited scope for internet recruitment: Internet recruitment requires minimum eSkills. As a consequence, it is mainly focused on the mid / high target of the society and some people who do not have some minimum training is out of the scope.
- iii. Accessibility: Potential candidates may be out of some certain internet recruitment processes in case they have not applied to the job offer.
- iv. Big amount of job offers, which may cause job seekers not to know to which institution or company is their information sent to.

Internet recruitment has grown very rapidly in the last decade, at nearly twice the rate of the growth of the New Economy. The reason for the rapid movement of job search and recruitment to the web is simple: workers seeing jobs want information about the jobs on offer; while employers seeking workers want information about persons seeking work; and the Internet is the lowest cost way to transmit information throughout the economy. Companies can post advertisements for jobs on the net for a tenth the price of buying a want-ad in newspaper classifieds, which is one of the most common ways of workers seeking. In addition, they obtain much more rapid responses through online applications as well as a much bigger amount of candidates, among the ones they will find the ideal candidate. But benefits of internet recruitment are not only for companies. Workers can also search for a wide variety of jobs, distributed among different areas of specialization, and apply relatively easily for those jobs without leaving their home and can be notified by email that particular firms are interested in them.

#### **3.4.1. How Internet recruitment works**

Internet recruitment sites differ widely in their form and in the scope of services provided. They started being just job boards, the electronic equivalent of newspaper vacancy ads, that listed available jobs grouped by occupation, location, and so on. Nowadays, the aforementioned sites sell firms or recruitment agencies the right to post job details and also enable a rapid and efficient interaction between job seekers and companies looking for the perfect candidate to fulfill the job vacancy. Network and other forms of scale economies suggest that these days only a few large sites may ultimately dominate Internet recruitment, as it happens in the Spanish internet recruitment system. In these types of websites, however, offers are divided into different job sectors, so they are also able to have the advantages of small specialized niche sites, which link employers and workers in specific industries, occupations, and sectors. These sites offer both job boards and CV database specialized in gathering CVs from workers and charge firms for accessing their CV database. Some of these firms charge companies only when the firm finds candidates it seeks to pursue, but all of them earn revenue from firms while providing services freely to workers. For workers the only direct cost is the time costs of search.

The development of Internet recruitment sites highlights the advantages of network economies or scale economies in job search and recruitment. Persons seeking work want sites with many jobs on offer and few competing applicants. Firms seeking employees will prefer sites with many job seekers but few competing vacancy ads. There is thus an inherent advantage to sites to gain popularity on both sides of the market. Presumably, there is also an equilibrium level of vacancies per job applicant, with sites having many vacancies per applicant drawing more applicants and fewer vacancies over time; and sites having few vacancies per applicant, gaining vacancies and losing applicants.

To attract workers to search on their site and post their CVs, many Internet recruitment sites offer free information about salaries, training opportunities, give advice about best ways to interview for a job along with other career or job-seeking advice, or promote networking among job seekers.

Regarding the industrial structure of the Internet recruitment business, it varies greatly across countries. In the US and UK private sector firms dominate Internet recruitment. However, the Spanish market is relatively dominated by the private sector Internet with Infojobs, LinkedIn and Jobandtalent as top used networks. In Sweden, by contrast, the dominant recruitment agency is the public sector employment service. In Germany and France also the public sector employment service plays a major role in Internet recruitment, with the German employment service listing the resumes of all its jobless persons on the Internet.

## 4. ICT regarding the Catalan Employment Service

### 4.1. ICT relevance in the Catalan Employment eService

On a national level, eGovernment is deployed in several areas of public policy. In the human services field the leading initiatives are primarily focus on employment. This can be seen in the Catalan Employment Service, which on 2006 developed a website in order to fulfill the expectations of both job seekers and employers. The relationship between the eAdministration and citizens is changing. Because of the big amount of people who uses its eServices, it is essential to manage the information in an efficient, fast and safe way. Moreover, most of the information must be updated regularly. In this sense, the ict deployment has a great impact on the following issues.

- i. Accessibility: There are big amounts of information available, which the citizen can search in a fast and flexible way and without economic charges. In this sense, the Catalan Employment Service has developed a website where all citizens can access. This website will be analyzed later on. Being aware that citizens can connect to the website through just an internet connection, it can be seen the most relevant profit of ICT implementation.
- ii. Big amounts of information available: Due to the internet availability as well as hard disks improvement, big amounts of information can be storage and exposed on the Catalan Employment Service website such as different browsers for job seeking, information about training courses or personal guidance eServices.
- iii. High speed workflows: Due to the ICT implementation the information flies in an incredibly fast way so citizens are able to reduce their time responses and be more efficient. Job offers and training opportunities can be updated every second.
- iv. No time barriers: ICT enables a direct and immediate communication between citizens and public administration. This immediate communication and its very low cost has totally changed the way we communicate. A section about frequently asked questions (FAQ) is available. In case the user does not find the information he / she is looking for, the website has a mailbox service where citizens can ask whatever is needed.
- v. Flexibility and adaptability: Flexibility is highly increased with ICT implementation so the organization has a bigger adaptability to changes based on the data storage



system. The website can offer a wide range of job or training opportunities in different fields going from engineering to the services sector. This means that the website has a big scope and may attract citizens with very different interests.

- vi. Automation: The implementation of standard processes through computers usage enables that more speed and accuracy is achieved. Citizen information insertion processes or document management are the kind of processes that are automatized.
- vii. Interactivity: By ICT deployment interactivity and information share among users is promoted through specific platforms as well as between citizens and public administration. In this sense, the website enables interactivity with users asking questions or with search browsers so the user can find concrete information in a faster way.
- viii. Digitalization: The information is processed in a digital way, so the information volume and time are considerably reduced. In addition, users can download the information they need with just a click.
- ix. Coordination costs saving: Due to the information digitalization as well as interactivity, flexibility promotion and automation, costs and time related to information sharing are strongly reduced. Better links between computers are built so synergies are promoted. In addition, the fact that users can fulfill many automatized procedures by themselves makes the institution reduce the costs related to process controls.
- x. Transactional costs saving: Related to the previous statement, transactional costs are also reduced due to the better way of sharing information. By automatizing procedures, the steps are clearly stated and the number of information transactions is reduced.

## 4.2. The information system at 'SOC': SISPE

The information system for public employments services was born in 1999 with the aim of integrating all the information about active labour policies that were used by the different public employment services within Spain. Once the policymaker power was already transferred to the Autonomous Communities, a common system was needed in order to be able to manage and analyze the data in an efficient way and take the right policy decisions. Within this scenario, the Public Employment Service Information System known as 'SISPE'

was born with the purpose of promoting cooperation and coordination among Autonomous Communities in Spain.

As a consequence, occupational flexibility and labour mobility within the country is promoted based on the fact that the aforementioned system is based on both data shared and common management procedures by all the different public employment services. This way, a better performance is reached with more efficient results for the country.

The Public Employment Service Information System is based on the following statements:

- i. The principal aim is to assure the efficient management of the labour market and its policies in Spain as well as assure the rights for the unemployed.
- ii. The aforementioned information system will promote cooperation and coordination within the different Public Employment Services from the different Autonomous Communities as well as with the Spanish employment system, known as 'SEPE'; and will manage all the information regarding the different institutions. In addition, it will manage all the information referred to the subsidies for the unemployed.
- iii. The 'SISPE' will follow the EU recommendations regarding the improvement of the information systems within the country in the labour market.
- iv. Enhance the labour market mobility in the country by letting know to the citizens all the job offers from different regions.
- v. Improve the statistics about the labour market operation.

In this sense, after the deployment of the previously mentioned information system the better information management is reflected on the more accurate results estimating the number of unemployed due to the fact that the data is completely updated and some mistakes about data management have no place.

### **4.3. Stakeholders for the Catalan Employment Service**

All eGovernment projects involve a wide range of services, products, people, and procedures; as it happens to the internet job recruitment projects. The key to understanding its value is to clearly identify the scope of the project. An essential part of the scope is the stakeholders that are involved. A stakeholder represents any entity (individual, group, or firm) that can affect or is affected by the organization execution of its objectives. The

stakeholders for the 'SOC' Institution regarding eGovernment and eServices provision are explained herein.

- i. eGovernment: eAdministration is one of the main stakeholders in internet recruitment. The aim consists on improving government processes by reducing costs, managing performance, making strategic connections within government, and empowering citizens as well as promoting job opportunities among the unemployed. In this sense, governments have the chance to reduce public spent (administrative costs, subsidies to unemployed...) and increase the state incomes as well as improve their public image.
- ii. eCitizens: One of the major stakeholders as all the service is focused to them. The majority of eGovernment initiatives concern citizens as consumers. This is because there is a keen interest in the development of customer services and relationships. Citizens are not just stakeholders who want to make a profit, but constituents of a policy that is democratically organized. Connecting citizens to government by communicating with citizens, supporting democracy, and improving public services will definitely improve citizen's opinion. This concept is known as eDemocracy, which has been previously discussed. Having access to the information available, being able to fulfill a wide range of burocreaucy or looking for jobs on the Catalan Employment eService are the most popular issues for eCitizens. The eGovernment initiatives taken so far seem particularly aimed at supporting democratic supervision, which will definitely improve citizen's opinion. An example is online public access to laws and regulations or to government information which aims to increase the transparency of public administration for citizens.
- iii. Companies: Business is also a key stakeholder for the institution, due to some of their initiatives can be carried out in cooperation with companies, and entrepreneurs can ask for support and guidance when starting new businesses.
- iv. Employees: All categories of public employees, including politicians and various other public administrators. Employees are also part of the stakeholder community for the 'SOC' institution.
- v. IT Personnel: eGovernment solution suppliers from both the private and public sector. They are suppliers of solutions, know-how, advice, skilled resources, hardware and software expertise.
- vi. Private employment agencies: These organizations have also been incorporated as a clear stakeholder. The new policy 35/2010 from 17th September 2010 (BOE nº

227) provides the regulation needed to the private employment agencies to act within the labour sector as job and economic promotion organizations. This kind of organizations must have the needed permissions by the Catalan Employment Service to develop their tasks within the Catalan labour market.

- vii. Competitors: Other competitors in the area of eServices employment such as the aforementioned LinkedIn, Infojobs or Jobandtalent constitute a group of stakeholders. Although they have different targets and different scopes, and they offer different range of eServices, all of them are based on internet job seeking.
- viii. Special Interest Groups: Aggregated and organized citizens interacting in local communities to build their voice through examples such as non-government organizations (NGOs) and civil service organizations (CSOs). Also included here are international organizations such as the European Commission, Organization for Economic Cooperation and Development (OECD) and the United Nations.

Identifying the key stakeholders provides a basis for identifying scope of assessment. Each stakeholder group represents a unit of analysis for the assessment framework.

#### **4.4. ICT usage optimization: Challenges for future**

As it has already been discussed, Spain and most of the countries within the EU are being damaged by a brave economical and financial crisis. Within this hard scenario in front of us, both governments and population have to deal with hard situations and must encourage themselves to improve our systems and global position in the world by making the economy grow improving competitiveness and adjust the public sector budget. ICT must play a crucial role in building an efficient and effective public administration in order to support the creation of a competitive and highly productive economy.

Moreover, there is still a long way regarding eDemocracy and promotion true relationships between eGovernment and citizens. These objectives will only be achieved by promoting eInclusion and eSkills among the citizens. Although there have been huge progresses in this field, big challenges still remain to be completed:

- i. Enable broadband to arrive to every single point, so every citizen can be connected.  
In this sense, it is also important to create both stationary and mobile broadband.
- ii. Eliminate all inefficiencies and duplicities within the public sector so the public spent can be decreased maintaining all the basic and needed services for citizens.

- iii. Keep promoting eAdministration and eServices to promote innovation and efficiency of the public sector.
- iv. Go to a public eAdministration no more paper based through the ICT implementation.
- v. Harmonize the government strategies in order to be able to take advantage of synergies.
- vi. Expand the eServices usage so the government is able to take profit of the investment done in ICT implementation.
- vii. Prioritize the ICT projects which will give best results and added value.
- viii. Consolidation of economy of scale in the ICT implementation sector.
- ix. Keep building a transparent and trustful eGovernment structure in the path to eDemocracy, as well as promoting eInclusion and eSkills for citizens, which is a key factor for success.

## 5. The Catalan Employment Service

### 5.1. What is the Catalan Employment Service?

The Catalan Employment Service known as 'SOC', agreeing to the Law 17/2002 from 5th July, is the self-governing institution from the Catalan government ascribed to the Occupational and Business department that governs all the active occupational policies. The aforementioned institution has the following aims:

- i. Prevent and decrease unemployment.
- ii. Give protection to the unemployed in the sense of providing professional training.
- iii. Act as an intermediation agent in the labour market.
- iv. Assure professional training as well as work orientation in order to enable the better occupability.

The 'SOC' strategy follows the European strategy for employment as well as both the Catalan national program 'Convergència i ocupació' and the Catalan general employment strategy. The strategy also goes in the sense of the Strategic Agreement for Quality Employment and the Internationalization and Competitiveness strategy for the Catalan economy.

### 5.2. The 'SOC' structure and budget

#### 5.2.1. General Structure:

The institution has a total number of 1925 workers (2011), divided by their tasks in table B.1 in exhibit B. Their presence in Catalonia is divided in:

- i. Government institutions: The 'SOC' director and the Board direction.
- ii. Territory execution institutions: The territorial services in representation of the institution are both the employment offices and the Innovation and Occupational Training Centers known as 'CIFO', primarily concerned about giving training to workers.

### 5.2.2. Budget

Regarding the Budget for the institution, it must be stated that its economic resources (24th article, Law 17/2002) come from:

- i. Resources supply from the Catalan government budget.
- ii. Yields from the properties or goods ascribed to the aforementioned institution.
- iii. Subsidies or donations from public or private entities.
- iv. Taxes or other rights established by the law.
- v. European Social Fund budget.

As an autonomous institution, the Catalan Employment Service can act in an independent way in order to accomplish its functions and objectives.

### 5.3. 'SOC' as an intermediate institution for the European Social Fund ('FSE'): Main objectives

The Catalan employment service acts as an intermediate institution for the European Social Fund through the operating program for Catalonia (2007-2013) within the regional competitiveness and occupational objectives. This means that the Catalan service must act in accordance with the FSE objectives, supported by the Business and Occupational department of the Catalan government, and has the responsibility of managing the resources in an appropriate way. Its aims and objectives can be summarized as it follows:

- i. Internationalization: Attract more people to the labour market.
- ii. Increase the competitiveness of the Catalan economy making better matches between offer and demand.
- iii. Increase the occupational quality.

These main objectives are gathered around five main strategic axis according to the European Commission:

**Axis 1:** Encourage company spirit and increase the adaptability of workers, companies and employees. This core idea is based on the following:

- i. Giving support to workers being involved in changing and restructuration processes based on the globalization market.
- ii. Encourage the company spirit and permanent improving in order to be able to improve the productive sector capacities and flexibility.

This basic axis is based on investigation and development of new time distribution methods at work. A wide range of online courses are offered in this sense, primarily focused on promoting ICT knowledge for big companies.

**Axis 2:** Promote occupability as well as gender equality in the labour sector. This is the main axis of the operating program as it deals with the occupational quality. The fields on which this axis has more impact are the renewables energies one related to efficiency, ICT and energetic saving as well as buildings and public areas restoration. In this sense there are several projects with the aim of encouraging occupability among the more disadvantage unemployed. The axis is based on the following statements:

- i. Promote equal opportunities regarding labour market access among the people with more difficulties.
- ii. Support projects related to deliver a better service to the citizens.

**Axis 3:** Increase the quality of the human capital. This aim is based on the following statements:

- i. Fight against academic failure.
- ii. Make better transitions between academic and work life.
- iii. Promoting training throughout the hole professional life.

Among the actions done regarding this issue, it can be found the Basic Professional Qualification Program, known as 'PQPI', that promotes basic training in order to be able to enter in the labour market for the ones that did not get the middle school diploma as well as trainee experiences in different companies.

**Axis 4:** Promote internationalization and cooperation within the country. In this sense the activities done are regarding promotion of associations and new initiatives in the labour market encouraging knowledge transmission.

**Axis 5:** Technical assistance assuring the properly application on the operative program. It is based on the following statements:



- i. Preparation, deployment and monitoring of the operative program.
- ii. Evaluation and study.

The resources distribution among the five aforementioned basic axis can be found in Table B.2 and Figure B.1 in exhibit B.

## **5.4. The multi-channel model and latter improvements and modernizations at 'SOC'**

On 2008, it was initiated a plan with the purpose of improving all the offices in order to renovate and transform them to be a real model regarding professional orientation, job seek for both employees and companies. The main objectives are as it follows:

- i. Unemployed occupation.
- ii. New approach to beat the crisis effects: implementation of what is called 'occupational factors questionnaire'. The purpose is to be able to identify the key factors that cause unemployment for every single unemployed. Thus, the final aim is to build the most suitable strategy for every unemployed to improve his/her situation within the labour sector.
- iii. The institution offices must be closer to the small business.

The aforementioned multi-channel dimension is focused on the three following main channels:

### **5.4.1. Self-service points**

In 2010 new self-service points were installed in the offices so citizens can do now some of the administrative tasks in the 'SOC' offices by themselves. This is an important issue in order to increase productivity and efficiency within the previously mentioned institution as well as giving a better personal service to the users. The kind of services that can be autonomously completed in this self-service points are as it follows:

- i. Update personal information needed.
- ii. Consult the range of subsidies for the unemployed.
- iii. Renew the job demand.
- i. Get occupational reports / certifications.

- ii. Consult and change the official situation of the user.
- iii. Get information about job offers as well as training courses.
- iv. Sign up on any of the training courses available as well as on the job offers.
- v. Consult and print the CV.
- i. Modify pin code.
- ii. Validate the certificate.

We can find data (2011) about the multi-channel usage regarding self-service points that strengthens the multi-channel dimension. During 2011 a total amount of 2.140.127 processes have been done through the self-service points in the 'SOC' offices. The following figure shows the most popular processes done through the self-service point.

	<b>Total amount</b>	<b>%</b>
<b>Total processes</b>	<b>2.140.127</b>	<b>100</b>
<b>Job seek processes</b>	1.016.550	47,4995176
<b>job demand renewals</b>	534.950	24,9961801
<b>Other</b>	588.627	27,5043023

Table 5.1. Processes done through self-service channel 2011. [8]

#### 5.4.2. Website

The SOC website was created in 2006. Later on, many new applications and online services have been added to the website. Among these improvements stands out the Job demand renewal, that can be validated online, and the application Contrat@ where new job contracts are registered through an automatized process. Both points have been the key improvements regarding ICT deployment, that has enabled to automatize non-added value tasks that used to be very time-consuming.

Within the website it can be found the 'Feina Activa' site established in 2009 that acts as an intermediate agent where job offers are posted by companies through automatized processes and unemployed are registered. Thus, matches between job offers and candidates profiles are done and a certain number of candidates are presented to the company. The 'SOC' has no more functions in this sense than intermediation to create the most suitable matches between job seekers and job offers.

The multi-channel dimension has acquired more importance through the past of the years. The relevance regarding the usage level regarding the 'SOC' website has also increased since it was created in 2006, reaching during 2011 a total amount of 2.478.635 processes have been done through the 'SOC' website, which are a total 30% increase compared to the previous year 2010. The following figure shows the most relevant processes done through this channel.

	<b>Total amount</b>	<b>%</b>
<b>Total processes</b>	<b>2.478.635</b>	<b>100</b>
<b>Job demand renewals</b>	984.729	39,7286813
<b>CV consults</b>	80.141	3,23327154
<b>Administrative situation changes</b>	26.571	1,07200132
<b>Job offers introduction</b>	1.654	0,06673028
<b>Other</b>	1.385.540	55,8993156

Table 5.2. Processes done through 'SOC' website channel 2011. [8]

#### 5.4.3. Telephone 012

The last channel is telephone 012 that has also increased its users in a considerably manner, reaching a total amount of 84.776 job demand renewals in 2011. This channel was used for providing general information, job demand renewals and obtaining the report 'Dardo' by 2011. Even though, the job demand renewal is no longer available by telephone

channel for secure reasons. It can be seen the total phone calls amount during the last four months (2011).

<b>Total usage</b>	
<b>Total phone calls</b>	84.827
<b>Job demand renewals</b>	84.776

Table 5.3. Processes done through Telephone 012 channel 2011. [8]

Total amount of services and processes done by the channels in which there is no need of intervention from the institution workers (website, 012 telephone and self-service points) reached 5 million during 2011. This number is a total increase of 20% comparing to the 2010 total amount. The multi-channel dimension can be clearly seen in the table B.3 in exhibit B. All kind of services provided divided on three categories (stakeholders) can be offered by a face-to-face manner within the offices, by self-service points also installed in the offices, by the Catalan Occupational Service website or by telephone 012. Below it can be seen the total number of procedures done by each of the channels used not taking into consideration the 'SOC' offices.

	<b>Total</b>	<b>Self-service Point</b>	<b>Website</b>	<b>Telephone 012</b>
<b>Total number of procedures</b>	4.703.589	2.140.127	2.478.635	84.827
<b>%</b>	<b>100%</b>	<b>45,50%</b>	<b>52,70%</b>	<b>1,80%</b>

Table 5.4. Processes by multi-channel dimension 2011. [8]

As it can be seen, both Self-service points and the website have a relevant position with a important weight. On the other hand, the telephone 012 channel has a minor position due to the fact that has a much more limited scope in services provided. A total number of 4.703.589 procedures have been done through alternative channels. This is a crucial progress that could have not take place without ICT deployment and that represents a strength regarding efficiency creation and public spent saves.

## 6. Services provided by the Catalan Employment Service

### 6.1. Introduction

As it has already been stated, the 'SOC' is the institution that carries out all the initiatives regarding the Active policies in the Catalan Labour Market. Its efforts are based on the three basic purposes:

- i. Guidance.
- ii. Occupational opportunities and incentives.
- iii. Training and qualification.

The previously mentioned axis and aims are materialized in the following six actions blocks:

1. The first block is the one referred to information availability and guidance and is divided in three main tools: personal insertion itinerary, projects with the purpose of giving orientation and guidance during insertion in the labour sector and the ones promoting employment among the youngest people ('Talent jove').
2. The second block is referred to professional qualifications. Improving professional skills the unemployed will have more chances to find the most suitable job. Within this block there is a wide range of training opportunities as well as short trainees opportunities and even short periods abroad.
3. The third block is referred to recurrent training. It has very similar purpose to the second block. Both second and third block of actions are carried out by both 'SOC' institution and the Catalan Committee for Recurrent Training. This is a public institution within the Catalonia Government. The previously mentioned Committee has de responsibility of recurrent training for the people who are not unemployed with the key purpose of assuring people's flexibility and suitability in a changing environment.
4. The fourth block promotes job opportunities with a wide range of actions such as 'Escoles taller' or 'Cases d'ofici' for young people.
5. The fifth block is oriented to promote gender opportunities equality in the labour sector as well as among the disabled.

6. The sixth block is the responsible for promoting business creation identifying the labour fields where new opportunities could be built or promoting agreements between territories for occupability.

## 6.2. Actions done by the institution

The actions done by the 'SOC' institution divided into aforementioned three basic purposes are detailed in the table B.4 in exhibit B.

## 6.3. Guidance

Regarding the target of the guidance actions that the institution carries out, they can be divided in three main different blocks.

### 6.3.1. Guidance to companies within the Catalan labour market

Working closely to business and companies giving training and guidance in different fields.

- i. Training opportunities both to unemployed and employed people. In this sense, recurrent training has a relevant position giving training to business people as well as workers.
- ii. Mediation between companies and unemployed in order to find the most suitable person for each job vacancy. An accurate search among the candidates in the 'SOC' database will satisfy the company requirements. Then, the institution gives a list of the most suitable people to the company responsible, who will have the chance to talk to every candidate before choosing the final one.
- iii. Mediation and guidance in case there is a foreigner worker is hired by a company in Catalonia. This way, foreigners can be hired from their home lands and migratory flows are regulated in a properly manner. This service is provided through the offices SILO, located in Morocco and Colombia.
- iv. Guidance regarding hiring employees including legal information.
- v. Guidance regarding workers relocations. There are specific technicians in this field who assist in case a worker needs to be relocated due to a company rearrangement.
- vi. Subsidies to specific actions or projects with a direct impact on the labor sector.

During 2011 the main purpose has been focused on increasing the number of companies represented in the 'SOC' institution to increase the scope with a specific plan called 'Pla territorial de Prospecció 2011'. This plan is based on regular visits to new companies as well as the ones already represented by the institution. A total amount of 6.654 companies have been inserted within the 'SOC' system in 2011. Moreover, an effort to increase collaboration with councils and other relevant institutions within the Catalan government has been also made. Through both channels 'Feina Activa' website or the 'SOC' offices every company can post the job offer. An automatic search through the 'SOC' database will search for the most suitable candidate, and a list of the most suitable ones will be presented to the company. Also a presentation and diffusion of training opportunities is done to the companies, as well as the questionnaire about training needs to all companies. This is a tool to get a more accurate knowledge about the companies requirements and needs to have feedback to build better matches between training opportunities and labour market needs.

Guidance for entrepreneurship regarding how to proceed in legal or economical terms when creating business is also a key point.

### 6.3.2. Guidance to unemployed

All the unemployed in Catalonia can receive guidance from the 'SOC' institution in order to provide them with the best training opportunities or the most suitable job offers. Moreover, the institution tries to give the unemployed the tools needed to be able to evaluate themselves their own competences and the labour sector knowledge with the aim of increasing the chances to find a suitable job position. This orientation and guidance services are based on the ones that follows.

- i. Define professional objectives.
- ii. Know better his / her interests and motivations.
- iii. Provide better knowledge about companies offers and needs.
- iv. Identify strengths and weaknesses for the person in the labour sector.
- v. Create a well-structured plan for objectives consecution.
- vi. Be able to do an efficient search of the most suitable job.

The orientation and guidance is structured in different plans as it follows:

**Guidance from 'SOC' offices:** Within the 70 offices in Catalonia there can be found a wide range of services. To begin with, a first personal and individual interview is done to start

building the most suitable strategy. There are several professionals whose purpose is to promote and stimulate the unemployed capabilities as well as advice the most suitable training programs or courses to reach goals.

**‘Aules de Recerca Intensiva de Feina’ (ARIF):** The intensive job search sites ‘ARIF’ are built to speed the insertion of the unemployed inscribed at the ‘SOC’ to the labour market who have already a well-structured professional plan. These sites have all the staff needed by the unemployed such as a computer per person, telephone, scan devices to enables the unemployed to connect to all job seek websites. The methodology is based on an intensive job search directly focused on the kind of jobs that most suits each person characteristics. The intensive job search is done in groups, so the results reached are more satisfactory. The unemployed can attend these kind of places during four hours per day during a maximum period of four weeks.

The people who assist this service must accomplish the following requirements:

- i. Have a defined professional strategy.
- ii. Be inscribed al the ‘SOC’ database with the job demand in active status or searching a better job position.
- iii. Know Catalan or Spanish languages.
- iv. Be autonomous with the computer and the net usage.

The following programs are done by collaborating institutions.

**Personal Insertion Itineraries (IPI):** These programs are done by collaborating institutions within the guidance of the ‘SOC’ institution. The aim is to provide information and guidance to the unemployed and to the people who want to promote auto occupation. During 2011 there has been a total amount of 43.213 people benefitting from these initiatives.

**‘Reinicia’t’ project:** Reinicia’t is also a type of program done by collaborating institutions focused on unemployed aged more than 50 years old. This program combines different measures for the unemployed such as information about the labour sector and opportunities within the ‘SOC’ institution, guidance, analysis of their own competences, training through the less developed skills or abilities, insertion to the labour market and guidance through the insertion as well as following the process after the insertion as the last step. Subsidies are given to the institution, in this case, as it is just a collaborating institution, the total amount of people inserted to the labour market determines the subsidies given.



## 6.4. Occupational Opportunities

**Eures Network:** Eures was born in 1993 as a cooperation network among European Commission, Public Occupational services within European Economic Area and Switzerland, unions and other local and national representatives within the labour sector. The main objectives of the institution are:

- i. Promote labour mobility within the Eures territory.
- ii. Improve the European labour market.
- iii. Analyze the current situation and tendencies of the European labour market.

In this sense, Eures provides information regarding life and working conditions within all the countries from the European Economic Area or labour offices contact details abroad, as well as guidance and job opportunities to both employees and employers. Eures has a total amount of 850 people working on this service that will help and assist to provide an excellent service. In Catalonia there are five Eures workers distributed in four 'SOC' offices around the Catalan territory (Barcelona, Tarragona, Lleida and Girona). The institution has also made an effort in order to increase their ICT development and efficiency, implementing a new informatics system that enables the introduction of new job offers as well as the follow-up process regarding the activity of the Eures guidance workers.

**'Suma't' Program:** This is an initiative that was born in 2010 to promote training and professional experience for the young people in Catalonia aged between 18 and 25 who are unemployed and left the academic status too early not getting the basic high school diploma. It is based on the creation of work contracts as a trainee position combining guidance as well as training and professional experience with the aim of improving the candidate background to make him / her more suitable to get a new position in the labour market. The training provided is focused on:

- i. Training regarding professional skills for a specific job position with a minimum of 288 hours.
- ii. Training to achieve key competences with a minimum of 100 hours.
- iii. Training to obtain middle school certificate.

**Job opportunities promotion:** One of the aims is to encourage economic development and creation of new job opportunities. In this sense, there are several plans in collaboration with local entities or other institution which provides a general training with a professional

scope with a minimum length of thirty hours during the professional experience. The range of projects are focused on the following key and emergent sectors: Environment, Information and Communication technologies, public services and urban sustainability. A total amount of 266 projects have been subsidized spending a total amount of 4.787.061,28 € and leading to 561 work contracts.

Moreover, specific plans to enable long term unemployed without subsidies get a new job in the labour market have been also carried out during 2011 to beat the unemployed rate increase. Other plans such as temporary agricultural work plans have been also promoted.

**Equal opportunities promotion:** The aim of these programs is to promote equal gender opportunities access between men and women in the labour sector regarding job access and job promotion as well as work-life balance maintenance. Individual guidance plans to vulnerable women are provided to assure success in the labour sector access as well as training and orientation to strength skills and make them more suitable to the labour market needs. During 2011 a total amount of 1.427 women in vulnerability situation have been benefit from the 29 programs executed. With the aim of promoting women job promotion and women active participation within the decision-making areas, two projects have been carried out:

- 'Femtalent': This project has the aim to encourage and strength the women executive and decision maker side within the XPCAT (Scientific Parc Network in Catalonia). Giving training and designing new human resources strategies the aim is to have more women in the top sectors of the companies, particularly within the scientific branch which is mainly governed by men.
- 'Tems x tems': This project has the aim to introduce innovative way of distributing and organizing time to enable a better work-life balance for employees. Sixty companies within Catalan territory have taken part in this project and a total amount of 6.868 people have benefited from them.

Other kind of projects have been also promoted such as programs regarding the promotion of opportunities for the disabled providing job opportunities and guidance through the labour sector insertion process or direct finance help to companies that create new permanent job contracts or go from temporary contracts to permanent contracts.

Within the aim of promoting equal opportunities for the disabled, a specific project has been carried out:

- 'Bitacola' project: This project has the specific aim of promoting labour job contracts for mental sickness people with a recurrent coaching.

**Economic development promotion:** Within this area several projects regarding business creation and job opportunities promotion as well as local economic development can be found. The sphere of action in this field is based on the statements below:

- i. Planning and control all projects related to productive economy promotion.
- ii. Strategic areas identification and development.
- iii. Diversified industry promotion.
- iv. Giving infrastructures and support to productive activities.
- v. Initiatives to get a better knowledge about productive economy needs such as training, skills or worker's needs.
- vi. Attract new economic activities and business.
- vii. Enable better mobility within industrial areas.
- viii. Plan training programs following specific territory needs.
- ix. Promote new companies creation within emergent sectors.

In this scenario the Catalan government gives the right tools to every local institution to promote these objectives in their own particular areas identifying their own strategic areas and planning the most suitable strategies.

## 6.5. Training and qualifications

The main objective of the 'SOC' institution, as it has been stated before, is to improve the Catalan labour market situation, moreover taking into consideration the actual general crisis environment. The only way to reach this aim is by creating new job opportunities and promoting better training among the unemployed, in order to be able to create better matches. Regarding the latter aim, the Catalan Employment Service provides several training opportunities adapted to each candidate with the aim of improve their weaknesses and make them more suitable to the labour market needs. The different training initiatives are stated below:

**Training plans in priority professional fields:** The 'SOC' institution gives subsidies to training initiatives through priority professional fields. The training includes:

- i. Training within certain professional sectors established by the Catalan Occupational Service. These training activities do not lead to obtain any official certificate.
- ii. Training with the purpose of obtaining official certificates in the fields of: logistics, tourism, transport and communications, renewal energy sources and power efficiency, information and communication technology.

During 2011, 5.036 training initiatives have been carried out with a total amount of 88.837 beneficiaries.

**Training plans within local entities:** The 'SOC' institution gives subsidies to local entities for training initiatives. As training plans within priority professional fields do, the ones within local entities also include both training that do not lead to obtain official certificate and the one that lead to obtain official certificate. The priority fields to obtain professional official certificates are the same as for the previous point.

During 2011 a total amount of 1.296 training activities have been carried out with a total amount of 21.212 beneficiaries.

**Initial Professional Qualification Program (PQPI):** This program whose target are mainly unemployed aged between 16 and 25 who did not obtained the middle school certificate, has the aim to provide the previously mentioned certification as well as basic professional training to assure their satisfactory insertion in the labour sector. The institution benefited from this subsidy must be inscribed within the 'SOC' database as a training center.

During 2011 - 2012 school year a total amount of 165 training initiatives have been carried out with 2.643 beneficiaries.

Within the PQPI initiative can be found the FIAP (Professional Training and Apprenticeship Project) addressed to young people aged between 16 and 21 years old who also did not get the middle school certificate with the aim of enabling them to enter in the labour sector or not leave the academic life.

**'Forma i Contracta':** This is a finance help for business that need to hire employees. It also includes training to prospective employees within the specific professional development needed by the company. The company has agreed on hiring at least 60 % of the unemployed that take part in the training program. During 2011 a total amount of 141 initiatives have been carried out leading to 2.051 people benefitted from them.

**Innovation and Occupational Training Centers (CIFO):** The 'SOC' institution has its own physical centers network regarding professional training. They provide specific training adapted to unemployed needs and weaknesses that due to the specific scope and

technologic needs are not covered by the collaborating institutions. The aforementioned training provided is supported by academic institutions such as 'Institut Català de Qualificacions Professionals' (ICQP) or 'Instituto Nacional de Qualificaciones de ámbito espanyol' (INCUAL).

There is a total amount of eight centers distributed through the Catalan territory. Every center, depending on its location, has a specific focus on the kind of strategic industry or business mainly implemented in that area.

	Location	Strategic Focus
Barcelona	Barcelona	Information technology
	Hospitalet de Llobregat	Graphic arts and visual communications
	Sant Feliu de Llobregat	Car industry and mechanical industry
	Santa Coloma de Gramanet	Building industry and renewable energy sources
	Sabadell	Metallic structures
Tarragona	Tarragona	Quimical industry
Girona	Salt	Food and Meat industry
Lleida	Lleida	Renewable energy sources and metallic industry

Table 6.1. CIFO Centers through the Catalan territory. [8]

The 'CIFO' also provides general training in new technologies area such as computer and Internet skills usage. During 2011 the CIFO institution has given a total number of 374 courses to 5.444 people.

**FP.CAT:** The 'SOC' institution is in charge of the FP.CAT plan, which has the aim of promote the integration of different training programs and create a top level net more suitable to both people and company's needs. Currently the FP.CAT project has several centers where training programs are given with certifications about professional

competences or even qualifications from the Business and Occupational Department from the 'Generalitat'.

**eTraining:** The 'SOC' institution has a eTraining service that gives a recurrent training, based on flexibility and innovation in the field of entrepreneurship focused in making learners more suitable to the labour market needs, too. The fact that it is only given through the Internet channel enables it to give a wide range of training opportunities connecting to very different geographical sites and to a considerably high amount of people. 700 eCourses with a length twenty-five and fifty hours have been done in the following areas:

- i. Administrative tasks.
- ii. Language skills.
- iii. Entrepreneurship and little business creation.
- iv. Tourism.
- v. General services and social activities.
- vi. Logistics.

A total amount of 27.558 people have benefited from this on-line training.

**'Connecta't':** This is a literacy program in the digital field with the aim of providing the basic computer and digital competences and skills to be able to increase the scope within the job seek process. The program provides the knowledge enough to be able to have a basic computer usage as well as apply this knowledge to the job seek process. This program has increased its number of participants considerable during 2011, reaching a total amount of 5.473 people involved.

**CerTIC:** This program was born in 2011. It is about blended learning courses in the field of Information and Communication Technologies mainly addressed to unemployed (a maximum of 15 % of the total vacancies can be occupied by workers that are not in unemployment situation). The program is divided into two main blocks, depending on the student background:

- i. Training and certification in ICT tools for already users. The competences strengthened have been Microsoft Office 2010 and OpenOffice.
- ii. Training to ICT professionals. The competences strengthened have been web applications programming, database usage and operating system administration.

## 7. Framework for the 'SOC' website

### 7.1. Introduction

As it has already been stated within point 2.4 of this paper, making official websites more user-friendly and accessible is a key requirement in order to ensure their success and enable eGovernment deployment. In the sense of eGovernment, as explained through point 5, the 'SOC' institution has strengthened its multidimensional dimension through the past decade in order to provide a better service, increasing efficiency in the public spent and enabling faster connections with less people depending on locations or office access. The 'SOC' website, as it has also already been stated, is the main channel in terms of usage level not taking into consideration the offices one with a total amount of 2.478.635 procedures during 2011, reaching the 52,7 % of the total procedures completed through alternative channel methods. This number has increased through the past of the years since the website was created in 2006, and it is still expected to increase in the following years. That is the main reason why the 'SOC' website must do re-evaluations in order to be able to get information about which points should be improved or which strategies should be implemented and give policymakers better evaluation criteria for their decisions.

A proper framework is also of paramount importance in this context. Many governmental units across the world have embraced the digital revolution and placed a wide range of materials on the web, from publications to databases to actual government services online for the use of citizens. In order to ensure success, however, it is important to assess the performance of eGovernment and take necessary actions based on these assessments.

Reengineering is evitable in such a situation, but organizations should analyze what kind of process reengineering they need. Successful organizations develop a culture of measurement, educating employees on performance measures and uses as they manage their organizations. These organizations are careful to ensure that performance is not merely a tracking exercise of items and numbers, but truly an assessment of the actual performance status and improvement in gains.

Although there is sparse information about the quality and efficiency of eGovernment initiatives, an increasing number of governmental units are incorporating or expanding the use of Information Technologies into many of their activities, such as the labour market initiatives. Even though, little is known about the quality and efficiency of eGovernment initiatives, partially because of lack of effective measures to evaluate eGovernment quality. The comprehensive assessment of eGovernment projects remain still partly unexplored. Even though, there can be no doubt that understanding the value of projects drives the

assessment process. These assessments can be conducted either as an ex-ante (before implementation) or ex-post (after implementation) procedure. Moreover, eGovernment programs can absorb a significant amount of public funds as they are implemented. Due to this reason, it is essential that such a major undertaking should go with post-implementation assessment. In this study, we present an ex-post framework with the aim of evaluate the effectiveness of the 'SOC' website regarding different areas as well as the active labour market policies promoted by the Catalan Labour Office.

Four are the fundamental objectives of ETHICS (Effective Technical and Human Implementation of Computer-based Work Systems) regarding eGovernment projects and ex-post framework:

- i. Encourage participation.
- ii. Improve the general conditions of work.
- iii. Produce systems that are 'technically efficient and have social characteristics that lead to high job satisfaction'.
- iv. Follow the socio-technical philosophy of trying for joint optimization.

Therefore, this paper is structured in five parts: First, we present basis of the framework, that is, the previous studies found that match the expectations and on the ones is based the framework about 'SOC' analysis. Second, the framework will be completed and conclusions about which factors are needed in order to obtain a complete model will be reached. The third part will expose the model proposed. Then, the model will be applied to the 'SOC' website and the results will be analyzed and summarized. As a last step results for 'SOC' and 'SEPE' websites will be benchmarked.

## 7.2. The basis of the framework and research process

Over the last decades both the diversity of topics and the volume of articles dealing with eGovernment have increased, as the ones dealing with the eGovernment labour sector field. Many of them focus on the development and evaluation of a website that interfaces between a government and its citizens. This is an essential part within the proposed framework, although there are also other fields of study.

A group of studies ranging from 2005 to 2010 have been selected that are representative of the larger amount of information available regarding ICT deployment connected to the labour sector or to eGovernment. Although many articles can be found, only relatively few



are rigorously conducted case studies or report on framework of analysis of public sector or eGovernment initiatives that accomplishes the requirements of this study.

The articles selected with this purpose meet the following requirements:

1. Evaluate public services / institutions.
2. The information source is reliable enough (renowned universities, governments or private companies).
3. The research method is specified and follows a well-structured path.
4. Causal agency can be determined.
5. Logical structure can be determined.
6. Level of analysis can be determined.
7. Well-presented results that show the organizational impact of IT projects can be easily recognized.

Although web sites were for a long time assumed to be the outlets that display information in an attractive and entertaining manner, this is no longer true. Both private and public organizations have started to re-evaluate their strategic positioning on the web and to provide added value services to their customers. Even though, information displayment is still a big part of eGovernment websites.

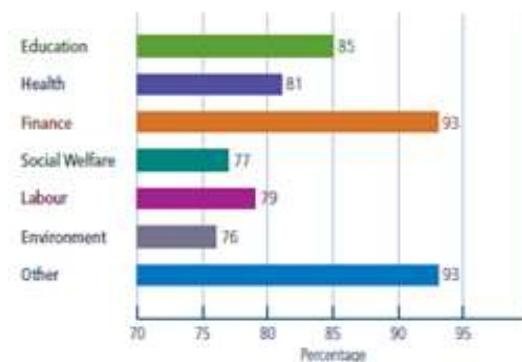


Fig. 7.1. Policy information online in Europe. [2]

As it can be seen in Figure 7.1 above, regarding the labour sector policy information is available online in 79% of the cases.

All over the world, public authorities at different government levels have been involved in web-related activities. It therefore comes as no surprise that most European regions, prefectures, and even municipalities have their own presence on the web. However, although the investments that are made for the development of these web sites are substantial, there is still a lack of methods to assess them. That is the reason why finding reliable information sources that gather all the points stated before as well as a complete analysis is particularly hard. Thus, within this paper several models will be analyzed studying which are the key points of each of them that could apply to the framework proposed about 'SOC' website. Below is a brief description of each of the selected studies meeting the aforementioned requirements.

### **7.2.1. Model 1 [10]**

Userfocus is London-based usability consulting and usability training company pretty well known in United Kingdom and set up in 1999 that help customers regarding all the issues related to their website designs and usability guidelines for websites. Although it is not just about eGovernment and the scope of the model is limited to usability issues, it provides a useful model to evaluate usability and navigation issues at websites and several case studies in this field. The model provides several parameters to be evaluated regarding design, layout and search tools availability.

It must be taken into consideration that the model provided by Userfocus is just focused on usability guidelines, which will be just one of the factors to assess in the proposed model for 'SOC' institution website.

### **7.2.2. Model 2 [11]**

This study carried out by 'Instituto Empresa Business School Madrid' and School of business Administration of Pennsylvania looks at the definition and description of value in the context of eGovernment projects and presents a comprehensive framework for eGovernment assessment. The framework is grounded in the socio-technical model Bostrom & Heinen (1977), and the STOPE model (Bakry, 2004).

The proposed eGovernment assessment framework consists of three components: eGovernment maturity level, eGovernment stakeholders, and assessment dimensions that can be seen in figure C.1 in exhibit C. Six dimensions with its respective factors to be rated are determined: strategic, technological (effective integration, accessibility, disabled), organizational, economic (cost / benefit analysis, ROI, sustainability) operational (efficiency,

transactions per day, turnaround time for processing) and services (information, interactive, integrated). The parameters assessed are shown in Figure C.2. in exhibit C.

The model also includes the stakeholder's point of view as well as the eGovernment maturity level, so the aforementioned factors are not considered in isolation. Including the stakeholders point of view is an interesting approach, due to the fact that this way the model is better structured and people conducting the analysis may decide which of them to apply. This study brings attention to issues related to eGovernment success which go beyond the initial implementation of a project. The framework supports multiple iterations within the same project along different dimensions. As the eGovernment project matures, successive assessments may be necessary to determine if the goals are being met.

This is a quite complete analysis as the assessment is done through different stakeholder's viewpoint and it is divided in different dimensions to be assessed. Even though, more depth within the analysis should be included in order to provide concrete parameters to be assessed and easily rated by the stakeholder.

### **7.2.3. Model 3 [12]**

This study is a multi-dimensional framework focused on aspects related to techno change. The objective is to continue the movement from technical and socio-technical thinking to techno change thinking by delivering a coherent collection of information systems research that can provide significant new insights into techno change management. The research provides a variety of different perspectives and viewpoints as they try to illuminate different aspects of this complex dilemma, but is out of scope for the framework proposed to evaluate 'SOC' website.

Even though, it has well-structured multi-dimension view that can properly fit for the 'SOC' analysis framework and a variety of aspects to be taken into consideration are shown such as statistical analysis and level of analysis conducted, and the impact on the organization. The result is a coherent synopsis of the tools and interpretations of prior research and the relationship to techno change management. In addition, it gives sufficient background to better understand and use IT to drive improvements in organizational performance.

The multi-dimensional analysis will include the 3 dimensions put forth in the Markus and Robey (1988) model and a few others deemed by this researcher to be important that will also be described: causal agency, logical structure and level of analysis. This study concluded that very few good theories about the role of Information Technology in organizational change exist, although there were some found that can match the specifications.

This study is mainly based on techno change so it is quite out of scope regarding the points to be assessed for an eGovernment in the labour sector website. Though, it has been selected because it provides a very logical and well-structured assessment built through the study of previous cases.

#### **7.2.4. Model 4 [13]**

This study is focused on the relevance of eGovernment assessing processes and taking actions based on these assessments. The study also takes into consideration the economic dimension with a cost and benefits analysis (payback, net present value, cost of the capital) which is also needed for the 'SOC' analysis. It also talks about the eGovernment performance index as a measure of eGovernment implantation and eParticipation. The factors assessed in this analysis and the weight associated can be seen in Figure C.3 in exhibit C. The study also explains the transition from governance to eGovernment, that takes place in four phases, from an information or presence phase, followed by interaction, transaction, to the final transformation phase, within the eDemocracy development.

On the other hand, it is a quite simple model that does not allow to carry out a complete assessment taking into consideration all the aspects needed for the 'SOC' website assessment. Moreover, it provides a number of parameters to be evaluated but those parameters should be better structured within different dimensions division. Even though most of the factors used properly fit to the study needs, the assessment should be deeper.

#### **7.2.5. Model 5 [14]**

This study is focused on the methodology used for the quantitative evaluation and comparison of sites in the operational phase. The case study that exemplifies the methodology is about museum sites (Louvre, Prado, Metropolitan and National Gallery of Art websites). In order to evaluate it, the following parameters are studied: Usability, functionality, reliability, and efficiency.

The different stakeholders approach is also took into consideration, specifying that different kind of users should be considered although for the study presented the visitor standpoint is the only one. At the end of the evaluation and comparison process, we obtain for each selected website a global quality indicator using the scale from 0 to 100%. Such rating will fall in three categories or preference levels: Unsatisfactory (from 0 to 40%), marginal (from 40 to 60%), and satisfactory (from 60 to 100%).

The four previously mentioned factors are assessed using different parameters that can be seen in Figure C.4 in exhibit C. The assessment of each of the factors is complete using a wide range of parameters most of the ones can apply to the 'SOC' website assessment.

Different parameters to be rated and its weights are clearly exemplified with the diagram in Figure C.5 in exhibit C.

Even the fact that this is a good model in the sense it explores each of the different dimensions with several parameters that can be easily rated, there are also weaknesses within the proposed model due to the fact that it does not take into consideration eParticipation axis, probably because the assessment is focused on museums websites. Regarding the 'SOC' analysis, this dimension should be considered.

#### **7.2.6. Model 6 [15]**

The aim of this study is to develop a framework for evaluating web sites of public authorities. The proposed framework consists of three levels. The first level is about four axes: General characteristics, eContent, eServices and eParticipation. The second level consists of factors that measure each distinct axis. The third level consists of the specific parameters used to perform the evaluation. The methodology used includes the construction of an appropriate questionnaire for assessing the framework metrics. Three levels of assessment and four axis proposed can be seen in Figure C.6 in exhibit C.

The sophistication of web sites is related to a number of characteristics and features regarding interface and esthetics, navigation, consistency and patterns, content relevancy and accuracy, accessibility, security and currency of information, navigation, public outreach and communication, online services, and citizen participation. The content concept refers mainly to the completeness of information provided online (West, 2007; Henriksson et al., 2006), to relevancy, accuracy, reliability and usefulness of information as well as to frequent updating and currency of the provided information. Public outreach and two-way communication in the sense of eParticipation is also mentioned.

Regarding eServices on offer there are two approaches of evaluation. One method examines if there are available electronic services that are fully operational (Smith, 2001) while the other method measures the number of services that may be fully executed online as well as their type (West, 2007).

This model also highlights that citizen online participation is the less evaluated concept of government web sites; only two methods include this in terms of availability of bulletin boards, online surveys and polls (Henriksson et al., 2006; Holzer and Kim, 2005) and utilization of chats, discussion forums, eMeetings and online decision-making mechanisms.

Although there is no stakeholder viewpoint division and the analysis is not a deep one, the model is well-structured providing a logical dimension division and taking into consideration eParticipation dimension, which is a clear strength.

### 7.2.7. Model 7 [16]

This is a case study about one concrete field of eGovernment, that is, academic web sites of the most important Romanian Universities based on the previous model of Olsina's study which evaluates four factors (functionality, usability, efficiency and site reliability) (Olsina,1999). Categories, factors, weights, ratings and total score are used as the basic structure in order to avoid subjectivity and achieve better results. The model is distributed in five categories and the most important factors for each of them from the user viewpoint can be seen in Figure C.7 in exhibit C.

Even the model is well structured providing separate aspects for evaluation, some relevant points are still missing such as eParticipation or economic assessment.

### 7.2.8. Model 8 [17]

This is a maturity case study model to benchmark eGovernment development focused on security aspects. Even the fact that several differences with the 'SOC' evaluation model will be found, some relevant aspects of eGovernment that can apply to the 'SOC' institution come up.

The model has a well-structured basis with several stages referring to technological complexity. In order to carry out a complete analysis, the study attempts to critically investigate, evaluate and analyze eleven existing eGovernment maturity models and discuss the findings.

The model emphasizes the relevance of security becoming part of systems operation, protection of confidentiality, integrity and authenticity of information, system software and data or controlling access to information, preventing unauthorized access to systems. Furthermore the security layer should integrate non-technical security related issues including managerial and operations at different levels, legal laws and regulations (cyber laws), cultural and ethical as well as economic issues. Different parameters assessed regarding eGovernment security can be seen in Figure C.8 in exhibit C.

The study concludes that few models consider lower level technical security requirements; in particular at the transaction stage. Some of the models did consider at all neither the transactional stage nor the potential benefit of digital democratic stage. In light of the analyses and interviews, it is concluded that it is important for eGovernment development models to include a security layer at each of the model's stages as a specific issue. Therefore, security must be considered in the 'SOC' proposed model in order to accomplish all the requirements.

### 7.2.9. eGovernment survey 2012 by United Nations (2012) [2]

This is a complex and extend study about eGovernment carried out by the United Nations in 2012. Although a huge amount of information is provided, most of it is out of scope regarding the 'SOC' model. Even though, it can be found one point that matches pretty good the proposed framework evaluation. It talks about Multilingualism, directly related to eInclusion and eParticipation. As stated before in this paper, one of the most relevant obstacles to eInclusion, particularly among vulnerable groups with little education, is language. Today, more than 80 per cent of all websites are in English yet only one third of the users worldwide speak English as their native language. As it can be seen herein, more than 90% of European countries have national multilingual portals.

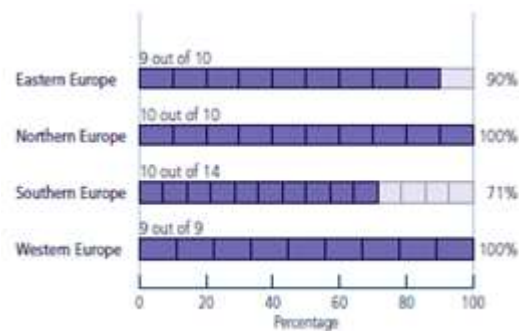


Fig. 7.2. Percentage of countries in Europe with multilingual national portals [2]

Therefore, multilingualism is a relevant issue that must be taken into consideration in the proposed model.

### 7.2.10. Model 9 [18]

This study focuses on eService quality dimensions in the Internet market with an empirical study on online travel service. The purpose of this study is to develop a scale to evaluate eService quality from the perspectives of both the main stakeholders, online companies and customers. Main factors taken into consideration from each of the stakeholder's viewpoint can be seen in Figure C.9 in exhibit C.

The results and conclusions from this study indicate that trust from the perspective of customer and ease of use from the perspective of online company are the most critical and important facets in customers' perception, while reliability, system availability and responsiveness have influence on customer's perception of online travel service quality as well, but the influence is not so strong as that of trust and ease of use.

This study has an interesting approach in the sense of dividing the analysis from two main stakeholders viewpoint, as some others do. Even though, the study is pretty simple and not deep enough taking into consideration just one level of detail. In order to achieve a more accurate model, further levels of detail should be introduced reaching concrete parameters that could be easily rated by the company or the customer perspective.

### **7.3. The framework of analysis**

The proposed framework is gradually built through a critical analysis of the two relevant domains, web site evaluation and objective achievement evaluation. The methodology used in the case study includes the construction of an appropriate questionnaire regarding the different dimensions assessed by each previous selected model. This way, connexions between different assessments and relevant points that should be taken into consideration can be easily detected. This study is exemplified in Table C.1 in exhibit C. As it can be seen, even the fact that some points are quite common for all the studies (they are built in a gradual process through the study of previous assessments, most of them are divided in different dimensions, and most of them evaluate eParticipation dimension) there are no strong points in common. That is because of two reasons. The main one is that the studies are quite focused on specific issues to assess. That is why the purpose of this paper is create added value by building a holistic tool for evaluation. The second reason is that even the fact that some of the studies assess quite common points, they distribute them in different dimensions or they name the aforementioned dimensions in different ways. Even though, a common mix of factors to assess explained below can be obtained.

#### **7.3.1. Assessment dimensions**

A multidimensional approach for assessment of eGovernment is needed. In the case of the 'SOC' website, four basic dimensions are assessed:

1. Previous placing dimension.
2. Operational dimension.
3. Effectiveness and economic dimension.
4. eDemocracy dimension.

Nevertheless, these three dimensions are not considered in isolation. For effective assessment, the analysis must be also carried out from the stakeholder's point of view.



Below the four assessment dimensions are described in detail. For assessing the online sophistication of the 'SOC' website the proposed framework apply a maximum of four levels of detail within each of the three dimensions of study in order to obtain a specific parameter that can be directly rated by the person who applies the model. The first and higher level consists of a certain number of parameters (depending on the dimension assessed) that measure different aspects of the website. The second level measures each distinct parameter in a more concrete way. The third level, in case it exists, consists of more specific metrics used to evaluate more accurately each of the previous second level parameters.

### **1. Previous placing dimension:**

As it has already been stated within the first part of this paper (objectives), the aim of the framework is to analyze the 'SOC' website. This will be carried out through the building process of an analysis model based on the exhaustive study of previous cases from both private and public eGovernment cases, focusing primarily on the second block. Once the model is built, it can be applied to different labour sites in order to be able to do a benchmark as the last step and reach reliable conclusions.

Even though, before carrying out the aforementioned benchmark, an essential point must be taken into consideration. Only public sites with similar characteristics in terms of scope of services and target can be benchmarked. Therefore, the final analysis model can only be applied to public sites with these similar characteristics in case the aim is to carry out a benchmark as a last step in the process. The conclusions reached after the benchmark would be reliable only as long as the sites analyzed are similar in terms of scope of services and target.

In order to be able to asses this, a placing dimension analysis must be applied to the websites to be benchmarked as a first step before analyzing the website itself. Although this will not appear in the proposed model, the team conducting the assessment must take this point into consideration based on the following statements:

- The scope of services provided by the public website: This factor is also assessed within eContent in the Operational dimension. Even though, apart from being an issue that must be analyzed within the operational assessment, it must also be taken into consideration before applying the model itself to the website to be evaluated. Only public websites in the labour sector with similar scopes for services provided can be benchmarked in order to reach valuable and reliable conclusions.

- The target of the website actions and initiatives: Due to the difference in target within the different labour sector websites, the services provided and its structure can vary

considerably from one website to another. That is the reason why only websites with similar targets can be benchmarked. Even though, it must also be stated that this problem is avoided in most cases when evaluating just public services eGovernment websites, as this is the case within this paper. Thus, limiting the scope to public labour sector websites the target will be considerably similar among different websites from different regions so this problem is avoided.

Once it has been verified that the websites to be benchmarked have similar characteristics so the benchmark can be carried out, the evaluation itself can start. The model for evaluation is structured and divided into two main dimensions: Operational and effectiveness and economic dimension.

## **2. Operational dimension:**

This is the main part of the analysis regarding the 'SOC' website. The operational dimension will assess and evaluate all the points regarding the 'SOC' website. This dimension is built through the previous analysis of all the models stated within point 7.2. It can be found the comparative analysis carried out summarized in the table attached in Table C.1 in exhibit C.

Although many different criteria and metrics are used through the different models, it can be clearly found that a specific set of concepts are commonly assessed regarding the operational dimension. These are as it follows:

1. Navigation
2. Accessibility
3. eContent
4. Reliability
5. Privacy and security
6. Public outreach
7. Organizational / Usability

Below are the explanations about each of the factors used as well as its scope in examination.

## Navigation

This term includes web site design, functionality and general ease of use. In terms of design, the site should be consistent in terms of layout, interface including coloring and terminology and not being too lengthy. In terms of functionality, features like navigation menus, site maps, alphabetical index containing active links and search tools should be also present in order to achieve a top performance regarding navigation evaluation. Search engines are an essential navigational aid for sites containing large amounts of information as it is the case for eGovernment websites as they provide an easy and quick way of locating information. Alphabetical index and site maps provide a quick overview of the pages and information contained within the entire website. The full functionality will be achieved in case the contents are active links to the appropriate web pages. Both are important tools for determining the coverage or scope of the site.

Other navigation useful issues are availability of links to the home page and specific color code used to distinguish between visited and unvisited links.

Without efficient and user-friendly navigation the user is likely to get confused, lost, or frustrated and finally leave the site. Some studies suggests that users should be able to find what they are looking for in three or even less clicks.

In eGovernment sites and in the labour sector sites, such as the 'SOC' website, in case the citizen can not find something online, they will have to do it by telephone or by their physical presence at the 'SOC' offices. Then, the main aim and efficient increasing purposes will be destroyed and the website will lose its functionality as an alternative channel for effective communication, losing weight in the multi-channel institution dimension.

## Accessibility

This term also includes different points regarding any kind of access barriers.

On the one hand, accessibility is referred to providing access to the disabled. This gathers all different disability types associated with aging, visual, auditory, speech, motor and cognitive deficiencies. In the race for more content, colours, graphics, motion pictures, audio, video and other dynamic elements it is becoming increasingly difficult for disabled individuals to access web sites. A study of 19 USA and Japanese web sites that observed 84 users with visual and motor disabilities concluded that web site usability is three times better for non-disabled users, commenting also on the necessity for the disabled not only to be able to perform a certain task, but also to perform it easily and quickly.

On the other hand, accessibility is referred to technical compatibility in terms of hardware and software as well as web site loading speed or supporting multilingualism in order to

promote inclusion. Although nowadays the web is widely regarded as a convenient, low cost and easily accessible by every medium, this is not exactly the case for some users. There are still a number of citizens that may not be able to afford the latest hardware equipment and software applications or to subscribe to fast, high-bandwidth internet connections. Regarding multilingualism, a public authority web site should be primarily available in the national languages. However, multilingualism does not only refer to countries with more than one official language. Nowadays, financial and technological circumstances facilitate large population shifts and hence multilingualism is an issue that all countries will have to deal with. For assessing the multilingualism factor the framework proposes two metrics: The number of foreign languages that the web site offers and the degree of content completeness in each of the offered foreign languages.

Based on the aforementioned evidence, the proposed framework includes three metrics for assessing the accessibility factor. The first metric refers to accessibility options for the disabled and examines whether a web site passes the first accessibility level of web content accessibility guidelines (WCAG) [24] standard of world wide web that are developed through the W3C process with the goal of providing a single shared standard for web content accessibility that properly meets the ends for citizens, organizations and governments. The second metric is a measure of technical accessibility regarding download time through a simple connection. The third metric measures the availability of links for downloading free software that is necessary for viewing the content offered on the web site, such as Acrobat Reader.

What is more, in contrast to commercial web sites that regard accessibility as a competitive advantage, accessibility of eGovernment web sites is not only an advantage but also an obligation towards citizens to avoid digital exclusion. eGovernment web sites should aim to facilitate usage by all citizens and businesses independent of circumstances, such as age, origin, disability and social status. Thus, for eGovernment web site accessibility becomes an essential consideration.

## **eContent**

Within this point the content of the website will be assessed. Self-evidently, thorough, precise and current content is an indispensable part of a successful website that quickly engages user's attention. The information must be clear, concise, error-free as well as useful for the reader. Some of the previously studied cases on website evaluation refer to some degree to content and width of offered information divided into general content and specific content, as well as to news and updating information. Regarding general content, it is referred to website general information such as whether it includes details on the mission and priorities, a message from the authority's representative, details on the labour sector internal organization and the services it provides as well as general topics relevant to

entrepreneurship, other job opportunities programs, culture or education. Another issue regarding general content is about the availability of external links to relevant public or private organizations.

Regarding specific content, it is referred to more specific and specialized issues regarding all the areas of scope within the 'SOC' activities or also the transparency of public administration in the field of public budgets and expenditures. It assessed the offering of specific services, such as payments, license applications, violations reports and ticket purchase.

Other studies also measured electronic services through the number of services that can be fully executed online. Without doubt, the total number of the offered online public services is significant since it is common that a public authority provides more than just a single public service.

However, although it is very simple to measure the number of online services, it is complex to evaluate this measurement, mainly because the total number of the services that should be offered online is difficult to determine and may differ substantially from one government level to another. Moreover, it cannot be assumed that the number of all traditionally provided services equals the number of services that should be offered online. There may be, for example, political or policy reasons preventing the online offering of some services so this kind of evaluation gets harder. The second important issue in online services evaluation is the sophistication level at which these are offered, as there is a huge difference between offering just online information on a service and offering the whole service transaction online. According to a study performed on behalf of the European Commission, there are four sophistication stages in the provision of public services, as follows (Capgemini, 2006):

1. Information provision.
2. One-way communication.
3. Two-way communication.
4. Full transaction.

Again, although it is simple to determine the sophistication level currently offered for each online service, one cannot be sure on the ideal conditions, mainly on the level that each online service should be ideally offered. Surely, it cannot be assumed that all online services should be offered at the full transaction level due to the nature of some services or political and policy reasons as it has already been discussed before.

Regarding news and updating frequency, it is referred to content currency meaning that the content should be regularly reviewed and updated.

So it is concluded that for assessing the eContent factor, three main parameters will be taken into consideration: General content, specific content and news and updating. Regarding general and specific content, it is pretty hard to assess it properly but some parameters can be taken into consideration regarding the information presented at the website.

### **Reliability**

Reliability is a key factor for websites success, even more in the eGovernment field. There are several parameters to take into consideration within this field related to the information presented within the website, reliable sources and updating, as well as to expertise and established authors or trusted institutions with a proven track record of reliability and integrity supporting the website and information presented. Apart from being supported by a trusted organization, the website and the information presented must have no bias primarily if it is an eGovernment website.

### **Privacy and security**

This is an essential component of a government web site that must be addressed due to the fact that in most cases personal information is treated. The site should provide a clear privacy statement, protection of citizen information sent through encryption mechanisms and protection of citizen data from the public authority and any other third parties.

To overcome privacy issues, secure encrypted connections for the transmission of personal information and transaction data must be used, as well as an evident link to a security statement that explicitly explains the way in which citizen data is protected and how it will be used.

For assessing the privacy factor the proposed framework includes two parameters. The first metric refers to the onsite availability of a privacy and security statement, while the second metric refers to whether citizens' private data are requested onsite. Under the second metric we also examine if these data are transmitted over a secure connection and if explicit information on the data usage is available onsite.

### **Public outreach**

The web site user should be able to perform all actions online without the need for further contact through telephone or post. However, in the case of public authority web sites it is important that further contact options are provided and contact with key personnel is

encouraged; this way it is possible to help citizens overcome problems, such as limited technological competencies. It is also a relevant criteria for the evaluation of eGovernment web sites.

For assessing the public outreach factor the proposed framework includes three metrics. The first metric refers to the availability of contact information such as electronic address, telephone or postal address. The second metric refers to the possibility for citizens to contact the authority's representatives for requests or complaints. Finally, the last metric examines the response time to an e-mail sent to the website.

### **Organizational / usability**

Usability and the organizational structure in a website is a relevant factor to take into consideration when assessing a website. It will influence user's perspective of the website considerably as well as the re-use likely of the user. A well-structured website in the sense of usability guidelines will enable users to find what they are looking for in an efficient way, fast and without feeling lost within the website. That is why usability is closely related to the structure and integration, functionality and efficiency in finding what we expect fast and in a direct way. This parameter must be specially taken into consideration when assessing eGovernment websites with a wide range of services and information available, due to the fact that they are more likely to achieve a lower performance in this sense.

### **3. Effectiveness and economic dimension:**

The third and last dimension is about effectiveness and economic issues. Within this part of the analysis, the aim is to assess the effectiveness of the website from two different points of view as it follows:

3.1. The effectiveness in its purpose as a labour eGovernment website. That is, reducing unemployment rates creating better matches between job seekers and job offers. Within this point efficiency regarding two different areas, training initiatives and labour contracts rates achievements, will be assessed.

#### **- Training evaluation:**

The aim of this policy evaluation typically involves responding to the question: What would have happened if this measure had not been implemented? In the specific case of labour market policies, it would involve assessing what the effect would be on a worker affected by a certain measure or a training program if he / she had not taken part on such program.

In order to reach a reliable conclusion following this path, one usual approach involves comparing the situation of two groups of workers, one affected by the measure and the



other not. However, there are still some difficulties that are hard to deal with so some simplifications must be done in order to be able to carry out this analysis. One of them is measuring whether the improvement in the employment situation of the worker affected by the measure is a consequence of the measure itself or rather it is attributable to other factors that might be hard to measure for each of the participants, such as other personal abilities, motivation, or specific background.

Another problem when evaluating training programs effectiveness comes up when the unemployed takes part in more than one training initiative. Nevertheless, through this paper every participant will be considered as an individual one so each SOC action participant will be treated as if he / she had not participated in any other program.

Therefore, although there is no doubt that some factors might be ignored, the training evaluation will be limited in scope to determine how many participants of each program found work a certain period after they took part in the aforementioned program.

Based on these arguments, the most usual approach for evaluating labour market policies involves the application of quasi-experimental methods based on the idea that once the measure has been applied, it is possible to conduct an ex-post analysis of the impact of the measure. There are two approaches available:

The first approach involves comparing the situation of the individuals affected by the measure before and after.

The second involves identifying a posteriori individuals that did not participate in the programs evaluated to form a control group. These individuals must resemble as closely as possible those affected by the measure both in terms of their observable and unobservable characteristics, a process which is very complicated to carry out with satisfactory results. Thus, the possible presence of selection bias affects the reliability of the results obtained when using this procedure.

Based on the previous information and the limited scope for the study due to limited information available, training programs will be evaluated through the first approach applying the simplifications stated above and comparing the situation of the individuals affected by the measure before and after. Thus, insertion rates will be used, defined as the employed after taking part of the training action compared to the total number of unemployed before the training action that took part in such action. Employment rates of participants and non-participants in 'SOC' training initiatives also can be compared as it is done below.



	Observations	Employment rate
Participants		
Integrated actions	2462	41.3%
Personalized employment support	21035	46.8%
Job training for unemployed	42321	47.8%
Social guarantee programs	1882	32.1%
Retraining	806	39.8%
<i>Casas de oficio</i>	1500	36.3%
<i>Escuelas taller</i>	1611	36.0%
Public employment plans	6245	63.4%
Total	77862	47.5%
Non participants	730871	40.5%

Fig. 7.3. Employment rates of participants and non-participants in 2005 'SOC' actions [9]

The comparison presented with data from 2005 figures a difference in favor of the former of 7 percentage points (47.5% compared to 40.5%). However, these results do not take into consideration the possible differences in the characteristics of the individuals that participated in the programs and those that did not, which is why it is necessary to apply econometric techniques that allow us to consider their possible impact on the probability of being employed

- Labour contracts rates achievements:

3.2. The effectiveness regarding the economic aspects of the website as well as the cost and benefits relation. Although it is not as in the private sector area, eGovernment must also assess its spent effectiveness even more in the current crisis scenario. Parameters regarding the 'SOC' total spent related with the effectiveness in its aims will be assessed. Therefore, we will be able to reach conclusions about how cost effective is the institution.

Outcomes and benefits from eGovernment programs are not always measured in financial terms. Indeed, a large number of eGovernment programs focus on social outcomes. Even though, it is also important to assess the financial effectiveness in order to be able to have reasonable cost-effective outcomes as well as to measure government performance measures for improved decision-making and priorities establishment.

The analysis will also lead to conclusions about website sustainability. The analysis of the effectiveness regarding the objectives achievement and the total spent as well as cost-benefits relation will directly drive to this relevant issue. eGovernment initiatives must be sustainable in terms of spent and cost effective parameters in order to avoid danger of becoming only short-term projects. The aim is to avoid projects extremely dependent on external funding for continued exercise as they will be likely to become just short-term ones.

#### **4. eDemocracy dimension:**

The eDemocracy concept is not widely assessed within the previous analyzed models. Only eParticipation which is more limited in scope is assessed, although not in all models. Even though, eDemocracy has acquired more relevancy through the past decade, as it has been explained within the first part of this paper. It is a crucial concept that must be taken into consideration for future eGovernment assessments. It is the basis of the aforementioned model about levels in provision of public services. As it has already been stated, eGovernment must provide services taking into consideration high interaction two-way procedures with citizens.

As it has already been stated, eDemocracy mainly involves both eParticipation and Trust & transparency for the government institutions.

##### **eParticipation**

The citizen online participation is the less evaluated concept of government web sites. Even though, this concept is acquiring more and more relevance during the last decades within all developed societies. As a result of this process of change, it has been taken in higher consideration through the last studies. This concept is referred to the level of involvement from citizens in the site and whether citizens use the site only for consultation purposes or active participation and interaction also happens. eParticipation is directly related and encouraged by availability of bulletin boards, online surveys and utilization of chats or discussion forums. It is also referred to the promotion of participation in public decision-making. This issue is related to the Levels of interaction model explained before and to the European thesis developed during the last decade: 'eGovernment strategies at all levels should advance trust and confidence in public services and online democratic participation' (European Communication, 2003). Moreover, one of the five priorities adopted by the EU in the 2010 eGovernment Action Plan is the strengthening of participation and democratic decision-making. eParticipation emerges also as a priority at a global level with the UN three-step plan for enhancing eParticipation.

- i. Increasing eInformation to citizens for decision making.
- ii. Enhancing eConsultation for deliberative and participatory processes.
- iii. Supporting eDecision by increasing the input of citizens in decision making.

Although as it has been explained eParticipation is widely recognized as a relevant component of eGovernment, a limited number of evaluation methods for websites take this point into consideration. As a result, the proposed framework proposes three factors for

measuring eParticipation: Information availability, electronic consultation availability and active participation opportunities.

For assessing the information factor we employ a metric measuring the availability of online policy documents and the policy level they refer to. For assessing the consultation factor we employ a metric measuring the availability of electronic consultations onsite. Finally, for assessing the active participation factor we employ three different metrics. These refer to the availability of communication tools such as chats, blogs or eForums and decision-making tools and to the ability for citizens to propose topics at eForums.

### **Trust & transparency**

In the context of the Internet, trust toward online institutions is often regarded as a key factor. Even more it is in the eGovernment field and within the labour sector, where users should have a great perception and trust about their governments from the point of view both as an internet service user and as a citizen. Trust is related to the buying and payment process, the reliability of the website, privacy and securities issues, order fulfillment, service delivery, and the reputation of the public institution. Customers' trust to online public institutions website is critical for eServices success.

## **7.4. The model**

Once all existing research found in the literature regarding eGovernment evaluation in the labour sector have been discussed and the relevant factors and concrete parameters to appear in the model have been determined, the model must be built. Though studies on eService quality and eGovernment have been conducted, and different scales have already been developed for measuring these concepts, the existing research is fragmented and does not meet all the expectations for the 'SOC' institution. For this reason, the dimensions, factors and parameters to assess have been determined combining and synthesizing the existing research analyzed within this paper to meet the 'SOC' assessment requirements in order to obtain a complete model for assessing a public website institution within the labour sector, as well as its effectiveness regarding the institutions aims and spent from the main stakeholders point of view. The framework presented in this paper and the conclusions obtained when applying it can help an eGovernment developmental team to clearly identify weaknesses or strengths and to articulate goals in a more focused and efficient way focusing on the stakeholder's dimension.

As it has already been explained, the proposed model consists of one previous assessment in order to assure that, in case the aim is to benchmark public websites, these websites

have similar general characteristics and can be benchmarked. After this very first part, the assessment itself has three main dimensions:

1. Operational dimension.
2. Effectiveness and economic dimension.
3. eDemocracy dimension.

More relevancy to eDemocracy has also been given in the proposed framework, even though many of the previously analyzed ones did not deal with this point or in case it was mentioned, did not attract much attention. Even though, nowadays eDemocracy and eParticipation as a relevant part of it are becoming more important and new measures are being implemented in this sense. That is the reason why it is essential to take this into consideration for eGovernment evaluation and that is a clear strength of the proposed model compared to the ones analyzed before.

In order to assure a deep analysis of both dimensions breadth and depth of the service offering and reach concrete parameters to be easily rated, the proposed model has further level of analysis within each of the previous dimensions. Each dimension has in most cases 3 levels of depth reaching a fourth one in Functionality factor within the Operational dimension. The proposed parameters shown in exhibit D have been obtained through the study of the previously mentioned case studies within the eGovernment field.

Therefore, a questionnaire is designed to cover the metrics of the framework. The questionnaire is comprised of 90 items to be directly rated with a Likert scale between 0 and 10 for each answer. This scale has been selected between 0 and 10 because a high level of accuracy when evaluating is needed. This accuracy would not be reached with a Likert scale between 0 and 5, when two people with different viewpoints are more likely to obtain the same punctuation.

This kind of evaluation can apply directly to first and third dimension, but not to the second one 'Operational and effectiveness dimension'. In this case, specific numbers such as amounts of money, number of job offers or number of contracts are needed. A direct rate between 0 and 10 will be given to each of the parameters based on the information about 'SOC' compared to similar institutions in the public labour sector. That is why the second dimension can only be evaluated from the Government perspective, who is the only one with access to all the information needed. Moreover, this is the point when the proposed model has a strong limitation explained herein through point 8 due to lack of information available.

As it has already been stated, the framework is done from different stakeholders viewpoint:



- i. Government
- ii. Citizens
- iii. Companies

The model is holistic in that it considers all relevant aspects when evaluating a labour eGovernment website. However, when applying to public labour sector websites, all aspects of the model will not be applicable to every site so the person conducting the assessment may decide to do a general evaluation with all stakeholders or focus only on one stakeholder dimension, depending on the aim of the analysis and evaluating purposes. Thus, for each of the previous stakeholders, only the dimensions, factors or concrete parameters that apply to them will be evaluated. Therefore, the results and conclusions obtained will be more accurate.

Thus, the team conducting the analysis can easily determine which are the stakeholders to be evaluated and more concrete conclusions can be easily obtained.

All the variables included following the levels proposed are included in exhibit D.

## 8. Evaluation

### 8.1. Introduction

The last step on this paper is applying the analysis to the 'SOC' website and obtaining the results. For this purpose, a limitation in the research when applying the proposed model regarding the limited information available should be acknowledged. The model will be fully applied for citizen's perspective (Operational and eDemocracy dimensions). Even though, Effectiveness and economic dimension can not be evaluated due to lack of information. Even the fact that an exhaustive research has been done in order to obtain the information needed to apply this evaluation, it can not be fully applied.

As it was concluded during the meeting with Ms. Vicario, the External Relations Manager at the Catalan Employment Service, the institution is submerged into a change process due to economic cuts that has considerably affected their structure. Due to this scenario, the person in charge of the website till 2012 has been substituted and the External Relations Department is managing all the issues regarding the website by now. This is a strange and new situation for them that has let to some information loose. Even more, the Catalan Employment Service does not have concrete statistics available at the moment that could give response to the parameters proposed within points 8.1, 8.2 and 8.3, as well as some of the ones proposed within points 9.1, 9.2 and 9.3. It should be taken into consideration that the SOC website can not be evaluated regarding job offers as a separate entity from the other main channel (offices) due to the fact that the internal functioning and the way the institution manages the information does not allow it. As it has been explained through point 5.4.2, the website acts as a mere intermediary agent between job seekers and companies receiving feedback from both the Internet channel and the offices one, not treating them as separated entities.

Having said that, we should highlight that parameters within point 9.1 and 9.2 have been introduced thinking about the website as an independent channel because they are needed in order to evaluate the website as a separate entity and study the impact of ICT in the institution. It happens the same regarding website cost and savings relationship, that can not be evaluated separately for website due to functional and structural reasons. Even the fact the aforementioned can not be rated, they must be present in the model because they are needed in order to evaluate effectiveness and efficiency from the institution regarding the deployment of ICT and its website. The information available should be treated in a different and more compartmentalized way in order to achieve these results. Regarding the

evaluation of training opportunities within point 9.3 in the proposed model, specific information about training initiatives and insertion rates must be also known.

Even the fact that the model can not be fully applied due to lack of information, the added value contribution is on building a complete model to assess not only specific items of the website, as it happened with most of the studies previously selected, but the whole website as a unique unit of assessment and moreover, reaching deeper levels of evaluation regarding eDemocracy and the effectiveness in its purpose.

Furthermore, the model can only be applied to a limited number of people. To determine which is the ideal number, Nielsen Norman theory for usability evaluations that can be seen in Figure 8.1 will be followed.

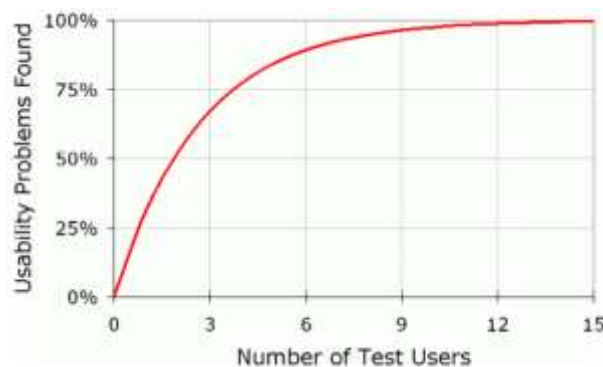


Fig. 8.1. Nielsen Norman theory for usability tests [21]

This theory reveals that tests with just five users will reveal about 85% of all problems in a website regarding usability and functionality aspects. Therefore, the model will be applied by 5 people from citizen's perspective including Operational and eDemocracy dimensions.

## 8.2. Results

Therefore, only first and third dimension analysis will be fully applied as shown within Tables E.1 and E.2 in Exhibit E. An illustrative graphic of the results obtained for both dimensions one and three can be seen within figures 8.2 and 8.3.

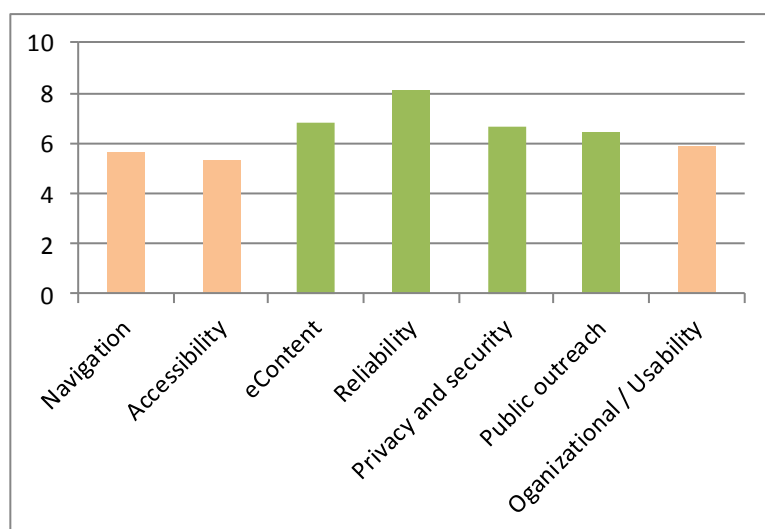


Fig. 8.2. Operational dimension results obtained for 'SOC'

As it can be seen, results obtained are quite satisfactory for Operational dimension assessment. All factors are rated above 5, and four of them (eContent, Reliability, Privacy and Security and Public outreach) are rated more than 6.

Even though, there are some points to be improved focused on Navigation, Accessibility and Organizational / Usability. By looking at these factors, several parameters rated below 5 can be easily detected. Are the ones listed below.

Factor	Parameter	Rate
Navigation	1.2.1. Navigation menus availability	4,2
	1.2.5. Links to home page	0
	1.2.9. Navigation choices are ordered in the most logical task-oriented manner (less important info at the bottom)	3,8
	1.2.10. Color code for visited / unvisited sites	0
Accessibility	2.1.2. Subtitles incorporated to all videos	0
	2.5. Multidevice access	4,2
Organizational / Usability	7.1.2. Vertical Integration	3,4
	7.1.3. Compartmentalization	3
	7.2.2. Satisfaction customer	4,8

Table. 8.1. Parameters rated below 5 for Operational dimension

Looking at the parameters rated below 5, two different problems can be seen. On the one hand there is a lack of items that should be present or better developed in order to achieve



a better performance in the sense of Navigation and Accessibility (Navigation menus, links to home page and color codes for visited / unvisited websites and subtitles in videos).

On the other hand, there is a strong problem regarding Navigation and Organizational issues. Parameters 7.1.2 and 7.1.3 reflecting the general structure in which information is divided are strongly underrated. Even Horizontal integration has achieved a pretty good performance, once you enter in the different horizontal structures provided the information is not properly distributed. There should be a better vertical structure and information compartmentalization in order to get a better integration, that is, information is not properly distributed and the user may feel lost when searching for specific data. There are several different paths that should be re-structured in order that the user could feel more comfortable when searching for information. That may be the reason why, even the global balance seen in Figure 8.2 is not bad, the parameter 7.2.2 (Satisfaction customer) is rated below 5.

The last point that should be addressed is Accessibility. In order to achieve the best eInclusion performance, parameters such as 2.1.2 or 2.5 should be better rated. That means some improvements regarding accessibility should be incorporated, such as including subtitles in all videos or improving multidevice access by creating a mobile app for the 'SOC' website.

Regarding the eDemocracy assessment, results can be seen in Figure E.2 in exhibit E.

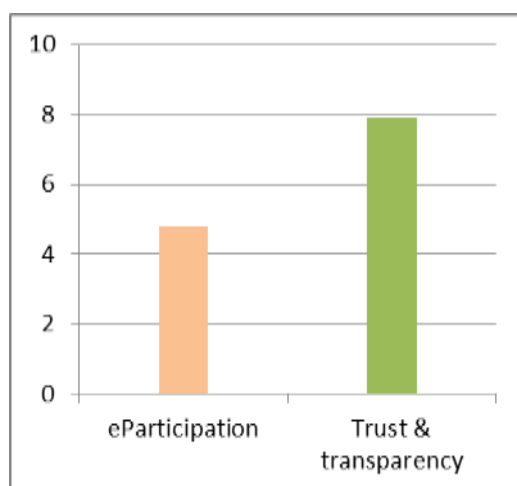


Figure 8.3. eDemocracy dimension results obtained for 'SEPE'

For eDemocracy dimension results are not bad, although there are some points to be improved. The rate for Trust & transparency is pretty good, as it could be expected due to it is closely related to reliability which also gets a high score. On the other hand, results are

not good for eParticipation factor rated below 5. Most of the parameters in this factor are rated below 5 as it can be seen in Table 8.2.

Factor	Parameter	Rate
eParticipation	10.2. E-Consultation availability	4,4
	10.3.1. Chats, blocks and e-forum availability	4,2
	10.3.2. Decision making tools availability	3
	10.3.3. Accessibility rating of eGovernment sites	0
	10.3.4. Ability for citizens to propose topics at eforums	0

Table. 8.2. Parameters rated below 5 for eDemocracy dimension

As it can be seen, 5 out of 6 of the parameters proposed are rated below 5. That indicates that there is a strong problem. Although the website gives a trustworthy image reflected in Trust & transparency rate, there is a strong lack of interaction between Government and citizens that should be addressed. As explained before in this paper, eDemocracy and eParticipation are also key factors for eGovernment success and citizens perception. Although they are quite new concepts developed through the last decade, every eGovernment organization website must promote them in order to engage citizen's participation and assure the success of eGovernment projects, even more talking about the labour sector. The 'SOC' website should improve and include new tools for two-way communication as well as enable citizens to give their opinions and feedback about the website. This could also help the institution to improve their site regarding the weak points stated before.

### 8.3. Benchmark SOC and SEPE

As the last step, once the points to improve for 'SOC' website have been clarified, a final benchmark between 'SOC' and 'SEPE' results will be done. The results of the benchmark can be found at Figures F.1 and F.2 for Operational and eDemocracy dimensions for both institutions in exhibit F.

As it can be seen in Figure 8.4, results for 'SEPE' are slightly better rated than the 'SOC' ones for Operational dimension with the exception of the Organizational / Usability factor, where SOC gets a slightly higher punctuation. By contrast, they are slightly lower for eDemocracy dimension.

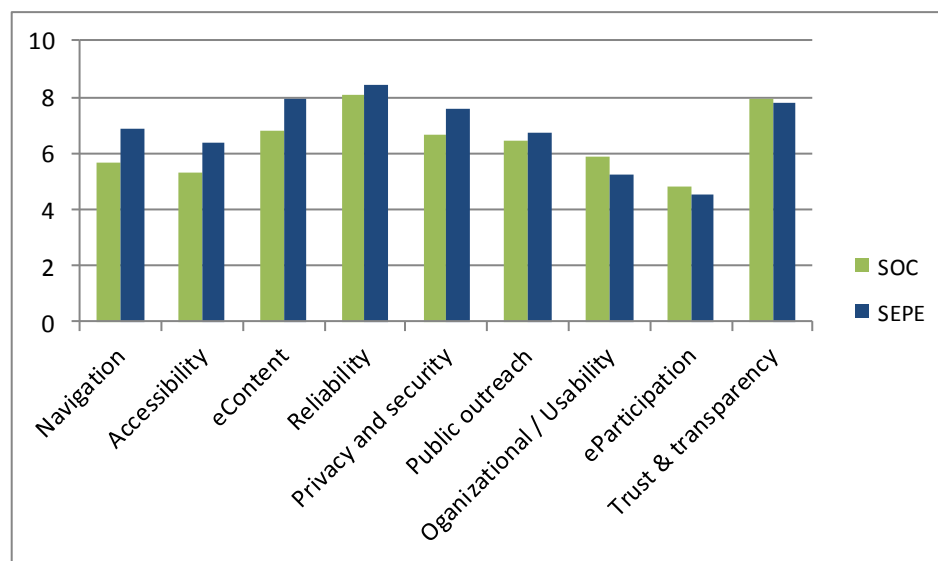


Figure 8.4. Results benchmark for Operational and eDemocracy dimension

It could be concluded that the 'SEPE' website has a slightly better punctuation in Operational dimension due to its better structure, although there are still some points to address. There are substantial differences in rating for specific parameters such as 1.2.1, 1.2.2, 1.2.4, 1.2.5 and 1.2.8, that show that 'SEPE' website has better navigation features in some concrete issues such as navigation menus, site maps or links to home page availability, which may make the user comfortable when surfing the website. Even the fact that it has less weaknesses than the 'SOC' website in the navigation field, little improvements should be done in this sense such as including color code for visited / unvisited links. These little features are essential for both websites taking into consideration that we are dealing with eGovernment sites providing a wide range of services and huge amounts of information.

Punctuation is also higher for key parameters such as 3.2.2 and 7.1.3, showing that although 'SEPE' website has huge amounts of information too, it is better structured and more compartmentalized. Even there are not the strong problems that the Catalan Employment Service website has regarding structural issues, some points should be improved. Rating of parameters such as 1.2.7, 3.1.2, 7.1.2 and 7.2.1 show that the navigation and useful content finding procedures can not be done in a fast and efficient way.

Parameter	Rate
1.2.7. Useful content available within 3 clicks	3,6
3.1.2. All the information provided is relevant	3
7.1.2. Vertical Integration	4,2
7.2.1. Faster procedure	4

Table. 8.3. Critical parameters rated below 5 for 'SEPE' website

There are huge amounts of information and optimal vertical integration is hard to achieve so users may spend too much time surfing the website before finding what they are looking for. That is the reason why Satisfaction customer parameter (7.2.2) is rated just 5. A bigger effort should be done to address this problem, assuring all the content presented is relevant and enabling users to find useful information in a faster way.

For both websites there are still accessibility issues to address, such as improve multidevice access (2.5) or including subtitles in all videos (2.1.2). These are key parameters in promoting eInclusion and assuring nobody will be out of scope.

## 9. Budget

The budget for the project is calculated based on the total amount of hours dedicated as it follows.

Type of work	Professional	Time dedicated (h)	Cost (€ / h)	Total cost (€)
Information search and collection	Historian	100	25	2500
Information analysis	Engineer	90	80	7200
Building the model	Engineer	100	80	8000
Excel tasks	Administrative	20	10	200
Redaction	Administrative	50	10	500
<b>Additional costs</b>				
Printing				100
Excel license				100
<b>Total fees</b>				<b>18600 €</b>
Taxes (VAT)	21%			3906 €
<b>TOTAL AMOUNT</b>				<b>22506 €</b>

Table. 9.1. Budget for the project

The total amount for the budget of this project is 22.506 € (VAT incl.).

## 10. Environmental and social impact

The project has no direct environmental impact as it is just a study about the relevance of Information and Communications Technologies applied to the Catalan Employment Service in order to be able to build an effective tool for evaluation. Going further, it could be said that Information and Communication Technologies have an environmental impact in the society. It is true, although the effects that this technology may have on the environment are not clear and seldom talked about.

In order to understand the aforementioned effects, different dimensions should be taken into consideration. On the one hand this industry has a continuously increasing size. People all over the world use ICT products in an increasing way, so this additional use may have an increasing impact on the environment due to the manufacturing of these products that implies a very high level of technology and the use of specific chemical compounds as well as the recycling processes of parts of the ICT devices after use life has expired. On the other hand, ICT products introduce efficiency with a potential smaller effect on the environment, cost savings and imply less paper use as explained within point 2.3 in this paper, so there is no doubt will have a positive impact on the environment.

The project has a direct social impact regarding the Catalan Employment Service. By assessing the website and providing a useful tool for re-evaluation the institution can deliver a better and more effective service to the citizens. Moreover, by determining which are the key points to address economical resources are spent in a more efficient way. Thus, the citizen's perspective will improve getting higher levels of satisfaction.

## Conclusions

There is no doubt that Information and Communication Technologies have had a great impact in our society during last decades on key factors such as increasing efficiency, simplifying back office load tasks and enabling communication from Governments to citizens, enabling a modern high quality public administration. In this sense, governments have done great efforts in developing specific plans and establishing the new concept eGovernment. Several studies demonstrate that this is an increasing extended issue that is taking more relevance, even though there are still some barriers to overcome. In this sense, promoting eSkills and eInclusion among citizens is the key of the success. If not, the multi-channel dimension that most government institutions such as the Catalan Employment Service have achieved will lose its sense and prospective development.

Regarding the analysis of the aforementioned institution, an exhaustive framework has been carried out selecting previous studies in the field of eGovernment. It can be concluded that, even the fact there are some previously studies done in this sense, most of them are very limited in scope and there is no an efficient and holistic tool for evaluating both website features and efficiency in its functions. For this purpose, a complete post-implementation evaluation tool has been developed bringing attention to the three main assessment dimensions: Operational dimension, Efficiency and Effectiveness dimension and eDemocracy dimension. This way both dimensions breadth and depth of the service offering are evaluated. The added value contribution is based on having a holistic tool for evaluation and benchmark eServices in the labour sector, taking into consideration all the relevant aspects, far away from previous limited studies in this field. Moreover, the added value contribution is also reflected on the third dimension, which involves recent concepts developed during the last decade that should be taken into consideration in every eGovernment assessment from now on.

The evaluation has been applied to the Catalan Employment Service website. Regarding the results obtained, it can be said that the website gets a pass but there are relevant points to address in order to assure website sustainability and citizens engagement. The citizen's perspective is pretty good, with factors such as Reliability, Privacy and Security and Trust & transparency being highly rated. These are key factors for an eGovernment website and eServices development that act as the basis of the success. Even though, there are some operational weaknesses that may lead to users feeling lost when searching for specific information within the website and that should be efficiently addressed. If not, users will be less likely to re-use the website and the institution could lose weight in its multi-channel dimension. Apart from specific items missing related to navigation and usability factors, the results obtained indicate that there is a high amount of information that should be better

structured. The website has a first well-structured horizontal integration structure, but the information inside should be restructured and better compartmentalized with more clear subdivisions and targets. This conclusion obtained through the application of the proposed model to the website agrees with one of the points discussed with Ms. Vicario during the meeting at 'SOC'. She acknowledged the fact that the Catalan Employment website should be better structured and that some users feel lost when searching for data. Therefore, the institution is already working to address this point.

Even more, there should be further development of the eParticipation concept in order to assure that citizens will be engaged and feel part of the organization. This is a pretty new concept developed during the last decade which go beyond the initial implementation of the website and that every eGovernment institution website should bring attention to. Even more in the case of public sector, which should play a key role as a model for innovation in this sense.

For both websites there are still accessibility issues to address, such as improve multidevice access (2.5) or including subtitles in all videos (2.1.2).

All the parameters discussed are key factors in order to assure that nobody will be out of scope, promote eInclusion and driving the way to a high modern and efficient public administration.



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