E-Government Bench-learning Project

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Abstract: The paper presents the e-Government Bench-learning project, which is being carried out by a group of 18 European cities lead by Barcelona, with the technical support of PENTEO ICT Analyst company and the Pompeu Fabra University in Catalonia as Scientific Advisor, within the Knowledge Society Forum of the EUROCITIES Network. It is a bottom-up bench-learning exercise that tends to cover the lack of useful information about e-Government progress at city level and provides a framework for further measurement. The motivation, objectives and work plan are presented. The methodology used in the project is explained in detail. Finally, as it is an on going project, the early results are presented showing the shape that the final results will have at the end of the project life.

1. Introduction

e-Government is the public administration's true revolution. It brings major changes in the way the administration works, the way it delivers services to citizens and companies and the way citizens are interacting with it. It is a radical transforming process that can be carried out thanks to Information and Communications Technologies that bring a wide range of possibilities to rethink the whole public organization's way of working.

According to EUROSTAD, the public sector is responsible for near 40% of the GDP in Europe. These figures point out how the transformation of the public sector is of capital importance for European economic growth. In addition, in Europe, the subsidiarity principle ensures that decisions are taken as closely as possible to the citizen. That means that the European Union does not act unless it is more effective than action taken at a national, regional or local level. In such a context, cities - which benefit of a noteworthy autonomy with an important number of competencies - are thus playing an important role in the organization of the European society. This fact is also reflected by the surveys carried out in Member States, showing that 70% of the citizen's interactions with public bodies are with local public administration. Although e-Government is a reality at all public organizations levels (state, regional and local), it has therefore its biggest impact at a local level.

Nowadays, all city governments and administrations find themselves in a transition from the old model of local public organization to a new one more efficient. Gradually, e-Government is being more and more encouraged. The relationship with citizens is changing from a scenario based on a multiplicity of specialized counters to a "one-stop-shop" model attended by multivalent civil servers. It is also evolving from time-consuming situations in which citizens are asked to do the coordination job between various institutions (turning back to submit new information obtained in other places) to a citizen-

oriented organization capable to know who the citizen is, what are the citizen needs in each case. In other words, these changes try to lead to proactiveness and providing more services for less.

As this transformation touches the core business of the local public administration, cities must carefully manage the process in order to shorten it and ensure a satisfactory output. City managers need to have relevant information about what processes to tackle first, how to remodel them, and how to measure the progress. From the cities' point of view, two important things are needed to lead the transforming process successfully: the existence of e-Government city models and the measure of the city's e-Government development. Where is the city going? How is the city doing the journey? At which stage is the city? These are capital questions each CIO needs to answer to make the transformation process a success.

The previous survey about e-Government City Models entitled "e-Government City Models: cases from European cities" [1], conducted during 2006 and 2007 in the context of EUROCITIES network and within the Knowledge Society Forum thanks to the collaboration of all members of the e-Government Work Group, provides a valuable tool for city managers to initiate and guide the e-Government transformation. This survey, which constitutes a qualitative approach to e-Government on European Cities, shows how seven European leading cities faced such transformation along the last ten years, which were the key decision taken and the main inspiration of their policies.

Although a lot of lessons can be learnt from that survey, it is only one of the needed contributions to foster the local public administration transformation. The other missing dimension is the measure of how a city is progressing in this important process.

Up to now, all the available studies about e-Government measurement, all the data measuring carried out and comparing e-Government evolution has been tailored at country level (i.e. the valuable Cap Gemini contribution to the "Online Availability of Public Services: how is Europe progressing?"). Although some information is also available about the regional level, only a small amount of information is focused on e-Government at a local level.

Meanwhile, while the indicators used at country level are based on standards (there is a growing tendency on that just after the Tunis World Summit of Information Society in 2005), the presence of such standards at a regional level decrease. Finally, at local level, there is such a low use of standard indicators that it is not possible to perform quality comparisons between different city cases.

The Cap Gemini Benchmark has a long tradition, and constitutes a valuable source of scientifically measured data concerning e-Government. However, it was designed in year 2000 in the framework if the e-Europe Action Plans to Member States ensured a generalized electronic access to main basic public services. As a consequence, it is focused on e-Government at a state level, that can be easily derived from the list of 20 basic services analysed. A quick analysis of these twenty services shows that it is not applicable to local e-Government measurement.

Another of the contributions of the Cap Gemini Benchmark is the popularization of the four levels of e-Government services sophistication. These models are based on the well-known four levels: information, one-way interaction, two way interaction and transaction. City e-Government services are evolving quickly and deeply transforming "business" processes. The Cap Gemini model is more difficult to apply to local e-Government measurement. We need to come back to the original and more ambitious model of four phases of e-Government introduced by Gartner Group [6] in 2000, which are: presence, interaction, transaction and transformation.

Moreover, regarding local level, benchmarking surveys mainly focus on the general aspects of the official website. Although, there are some exceptions of surveys focused on

e-Services offering such as the *"eCitizenship for all benchmark report"* [2][3][4] carried out by Deloitte and promoted by EUROCITIES network with the special support of The Hague City Council, in general, surveys never focus on e-Services quality and citizen adoption. Therefore, a complete view of the e-Government process in cities is not possible today.

This lack of suitable indicators for measuring the progress of local e-Government actions is what motivated the Barcelona City Council to start a Bench-learning project, with the collaboration of PENTEO ICT Analyst Company within the EUROCITIES Network.

This paper presents the foundations and preliminary results of this project.

2. Objectives

The aim of the project is to contribute to an e-Government measurement in the area of e-Services provision, quality and acceptance by citizens in European local public administration.

The project will provide a measurement framework and a set of indicators to perform benchmarking and the first results of the methodology application on a set of 18 European cities.

Finally, a collection of good practices will additionally arise at the end of this project contributing to the Good Practices Databases of the European Community and fostering a general learning process that will facilitate the transferability of experiences, increase success and reduce failures of the e-Government transformation that is actuates at city level.

3. Work plan

The project work plan was initially designed to develop all the project activities within twelve months, this period including four EUROCITIES Knowledge Society Forum events allowing members to meet easily during the life of the project. After the kick off meeting last October 2007, the project is expected to finish at the end of October 2008.
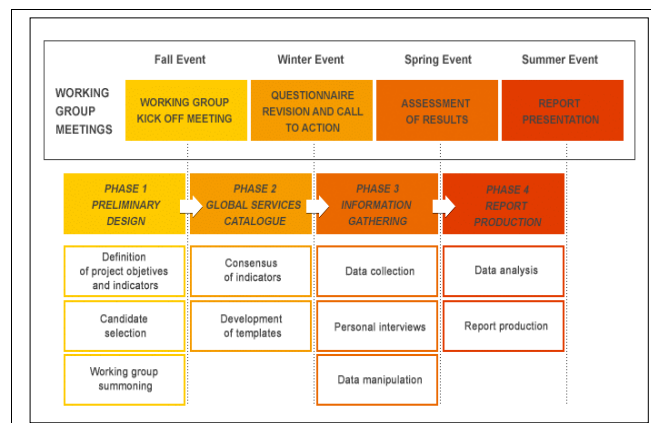

Figure 1: Project Work Plan

The project life is structured in four phases as follow:
- Project structure creation
- Global Services Catalogue generation
- Information recollection
- Report production (includes the data analysis and results presentation)

Each phase includes a workshop with all project members and several project coordination meetings. Each phase will produce deliverables as showed in the diagram above.

4. Methodology

In October 2005, during the EUROCITIES Knowledge Society Forum meeting in Prague, Barcelona City Council launched a survey carried out among the attending cities in order to find out which were the general interests of Knowledge Society Forum members regarding e-Government. The topics covered issues ranging from the strategy to the implementation of e-Government services. According to the results, the most interesting topic was "The strategic approach of e-Government". With that quick survey, the foundations of the new e-Government Work Group were set up.

This initiative was established as a response to a new understanding of cities and to face coming Knowledge Society challenges. At the same time, it was understood as a logical evolution from the former working group on e-Rights, chaired by Barcelona City Council representative, that just closed in June 2005 with the presentation of the European Charter of Citizen's Rights in the Knowledge Society.

The first Work Group workshop was devoted to the definition of the objectives, outputs, methodology and initial work plan. In that meeting held in Cologne (January 2006), the results of the survey carried out in Prague were analysed and crossed with the last "eCitizenship for all benchmarking report" [4] results, the Ministerial Declaration of the Ministerial e-Government Conference "Transforming Public Services" (held in United Kingdom in November 2005), the priorities of the European Commission, and the final report of the e-Government Policy Stakeholders Meeting promoted by the European Commission (September 2005).

In that meeting, members agreed to work on topics related to: strategic approach of e-Government, interoperability and standards for the e-Government services, financial sustainability and take up or citizens' adoption of e-Services. Although security related issues were also identified as of capital importance, it was kept apart to be treated in a specific Working Group focused on e-Security already running and chaired by Stockholm City Council representative.

At the same time, two main outputs were foreseen to be reached at the end of the project: "eGovernment City Models: cases from European cities"[1] as a final report on "Key Success Factors on eServices adoption" [5]. After a year and a half of work and meetings, both papers were presented during the Spring Event of the EUROCITIES Knowledge Society Forum held in Barcelona in March 2007. Just after achieving the planned outputs, the Work Group was dissolved.

In June 2007, in Bologna, during the EUROCITIES Knowledge Society Forum summer event, the Barcelona City Council representative made a new proposal of work to the Forum. This new work proposal was following the same action line as that of the previous Work Group, "The strategic approach of e-Government", but was focused on benchmarking local e-Government and identifying good practices.

The work proposal was centred on making a contribution in the field of e-Government measurement restricted to e-Services provision and adoption in European cities. Far from being a typical benchmarking exercise in which the results shows only rankings of cities, the work proposed aims to start from the bottom listening cities and understanding the kind of services they provide and the real needs cities have to manage the e-Government transformation. This approach leads us to a clear learning process based on best practices identification, description and dissemination. This is the reason why the project is named the "e-Government Bench-learning Project".

Initially it was presented as a project to be developed in a year time frame, as a bottom up exercise with the collaboration of the whole EUROCITIES network, therefore breaking natural barriers of the Knowledge Society Forum, and with the possibility to include other non-member cities eventually interested. With clear objectives, outputs and outcomes, the project governance was based in three key roles: Barcelona City Council as Project Coordinator, PENTEO ICT Analyst as Technical Coordinator and a Professor from University in Catalonia as Scientific Advisor.

The role of the Technical Coordinator is essential for the definition of a pertinent work plan, to ensure the use of the right methodology and guarantee an independent point of view. The Scientific or Academic Advisor contributes to maintain project coherence with existing research works and scientifically relevant.
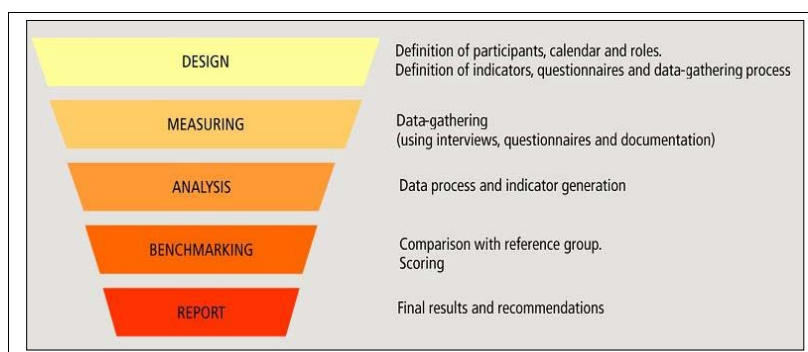

Figure 2: PENTEO's MÈTRICA Methodology

The methodology employed is based on PENTEO's MÈTRICA Methodology including some ad-hoc arrangements. The main characteristic of the resulting methodology is its bottom up approach, which is coherent with the project aim of contributing and providing a useful tool for city managers. To that aim, the collaboration of cities in the whole process is of paramount importance. This approach is combined with the guidance of the Technical Coordinator and the Academic Advisor.

Through several meetings the Work Group has been debating and defining the most significant services to be evaluated and the more useful groups or categories to be defined. In addition, the Group has chosen the most meaningful indicators to be used to draw up the initial situation of the service adoption and that have to be monitored to follow their evolution along several Bench-learning exercises over the years. Apart from attending and participating in the project meetings, each Work Group member, from all the involved cities, will be actively taking part on each phase of the project. They will be asked to contribute through indicators definition, questionnaire preparation, reporting structure outlining and data provision.

A constant communication is being held between Technical Coordinator and participants to guide the work and solve questions during the picking up processes. On the Technical Coordination side, a team is devoted to data analysis and classification. Lastly, the Project Coordinator, the Technical Coordinator and the Academic Advisor maintain regularly coordination meetings. Therefore, an intense work pace is being carried out to accomplish the initial work plan.

After the first project presentation in the Bologna's EUROCITIES Knowledge Society Forum event, the project team proceeded with the first round of cities recruitment, which lasted from the end of June to September. Meanwhile, and just after getting the minimum support required from cities, the Project Coordinator applied for the creation of an official Work Group in the EUROCITIES Knowledge Society Forum, which was accepted. The Work Group of e-Government Bench-learning was officially launched in the

EUROCITIES Knowledge Society Forum autumn event held in The Hague (October 2007) and the project was presented to new members.

Following the project launch, a second round of cities recruitment started in order to reach a significant number of cities to perform the bottom-up exercise. In December 2007 the first phase was closed reaching the presence of 18 European cities, all of whom belong to the EUROCITIES network (see Table 1 below).

Table 1: Participant cities

Antwerp (Belgium)	Barcelona (Spain)
Bergen (Norway)	Bilbao (Spain)
Birmingham (UK)	Bologna (Italy)
Enschede (Netherlands)	Helsinki (Finland)
Lyon (France)	Malmö (Sweden)
Milan (Italy)	Murcia (Spain)
Rijeka (Croatia)	Sanliurfa (Turkey)
Tallin (Estonia)	Turin (Italy)
The Hague (Netherlands)	Vienna (Austria)

In addition, in this first phase, the project team revisited the scope of the project by giving a formal definition of its indicators and objectives according to feedback received.

The second phase of the project was focused on the elaboration of the Global Service Catalogue. Here each city has provided a list of e-Services they provided. Amongst this a common set of services has been selected on which the bench-learning exercise will be performed. This list of services is of fundamental importance for successful work and it can be seen as consequence of the "modus-operandi" adopted. This is a cooperative work.

As a first step, an initial survey was undertaken to collect all the relevant services provided by each participant city through ICT facilities. In that first survey cities provided basic information about each service provided. After picking up all the variety of services, a deep analysis was performed, based on the comparisons and trying to infer the most suitable categories or groups of services that can be shared by all European cities. During this phase, a seminar was held in Brussels to discuss different services provided and debate the Global Service Catalogue in order to reach a common understanding regarding service definition and a consensus about the process followed. Following the meeting, a second survey was launched to refine the service list and descriptions. Alongside the new survey, examples of the services previously compiled were circulated thus helping cities to find common or equivalent services to those of the other cities. The cities lists of services were that time enriched with a bigger range of services.

This second phase required more time and coordination by all participants than initially foreseen, and was extended till mid Spring. During that time another workshop was held in Lyon in the framework of the EUROCITIES joint event of the Knowledge Society Forum and the Culture Forum in March 2008. There, a first draft of the Global Catalogue with a proposal of services categorization was presented and discussed. Thanks to the discussion, new services were discussed which enriched the catalogue. At the same time the categories definition was updated with the members' contributions. At the time of writing this paper (June 2008), the project team is finalizing the Global Service Catalogue.

The third stage has in its agenda the recollection, of the data related to service provision as a result of a questionnaire, in order to assess the maturity level, and citizen's adoption. The measurement of the service maturity will be based on the previous works made by Baum & Di Maio [6] extending the range of maturity to include a fifth level on the top to reflect a more advanced degree of maturity based on the introduction of citizen's

participation on the evaluation and discussion processes of public policies. Therefore the model for maturity service measurement will be based on 5 levels as shown in the Table 2 below:

Table 2: Services maturity levels

1. Information Level	Ability to offer relevant information in a one way communication process, usually website based
2. Interactivity Level	Users can generate basic content (e-mail, template, queries) which is introduced in the government data bases
3. Transaction Level	Transactions (payments, certificates) can be completed throughout an electronic channel
4. Transformation Level	Full integration for all e-Government services into a single portal. Users can access all services from a unique virtual office from any place
5. Participation Level	Let and promote citizens participation in the evaluation and discussion processes of public policies (e-Democracy)

Additionally good practices selection and personal interviews of some participants will be carried out at the end of this phase. The discussion and assessment of the collected data and the discussion about the good practices selection will be the argumentation of the project meeting planned by the end of June 2008 and that will lead the project in its last step.

Lastly, following discussion and assessment of the data, an analysis will be undertaken along with the final report. This is included in the fourth and last phase of report production. Following the working methods of the preceding stage, there will be a final meeting aimed at the report presentation.

5. Results

Table 3: Example of services under Education category

Basic Services	Additional services
Pre-school children education	Photograph for oral history
Children education	Media workshop in neighbourhoods
Adult education	Summer camps
Funds for cultural projects	Materials distribution for schools from local audiovisual centre
Virtual learning environments (cooperation home-school)	
Libraries	
Cultural heritage (museums, historical buildings...)	

Up to now, the results obtained by the project at the time of writing this paper are related to the Global Service Catalogue. At present the draft catalogue is composed of ten categories, families or group of services. All these categories are vertical with the exception of two. These exceptions are: the one devoted to Portal services and the one devoted to Participation services. On each category you find all the services related with the topic of the category. Under each heading the services are classified in two groups: basic services

(those common to the majority of the participant cities) and additional services (which are specific of some cities). For instance, taking the Education category, which aggregates all the services related with the education of citizens and the access to different educational institutions, you find the services listed in Table 3 above.

The structure of the Global Service Catalogue is as follows:

1. Portal: (present in 94% of the cities analysed). This is a transversal category of services. Here in that division there are all services that allow channelling of the services offered to citizens (i.e. city's web pages, citizen's personal folder, consultation on line, newsletters, GIS and map of the city, customized web pages, procedures information, etc.).

2. Participation (present in 75% of the cities analysed). This is also a transversal family of services. Here you find the services that aim to encourage a relationship between the citizens and their administrations promoting or being on themselves a pre-stage of e-Democracy (i.e. as basic services: City archives consultation, City Council Plenary sessions access, Participatory processes, City Council listens -on-line complaints and suggestions, and as additional services: Second Life Island, Reservation for municipal buildings, lost and found...)

3. Education and culture (present in 100% of the cities analysed) This family of services includes services related to children, adult and virtual learning services, services related to cultural projects and libraries.

4. Employment and business (available in 75% of the cities analysed). Here there are all the services related to e-recruitment, tendering and small business promotion. Those services are targeted at professionals and small businesses in order to improve economic growth of the area.

5. Environment and regeneration (present in 44% of the cities analysed). This group includes services related to garbage collection and services related with the maintenance of the communal properties as well as to the encouragement and acquisition of habits with have to do suitable urban growth.

6. Leisure and sports (running in 44% of the cities analysed). All services related to sports lending and services of the same nature are aggregated in this category as automatic ticket sales and event information.

7. Population (developed in 69% of the cities analysed). The services related to ease the necessary transactions among citizens and administrations related to the life-cycle of a person living in the city are put all together under this heading. It also can be named life-cycle services. Personal certificates, population registry. Residents' registration, burial places, digital documents management system, registry documents management, etc. are some of the basic services included. Added services can be found for instance marriage on-line and pets registration.

8. Social Care (provided in 56% of the cities analysed). The services linked to Health, Housing, and care for special people (Aged people, children, disabled people...) are in this section.

9. Transport (present in 56% of the cities analysed). This family group services related to ease the physical mobility through the city by various means of transport as well as other issues related (car parking, vehicle taxes, bicycles lending, on-line car fines payment...)

10. Urban Planning (offered in 75% of the cities analysed). All services associated to land use and property related issues as permits for construction, building regulations, certificates, land acquisition, are classified under this heading.

The Global Service Catalogue presented will be used together with the service maturity levels as the basic reference to carry out the bench-learning exercise among participant cities. Then, using all available data it will be provided a map of the average service maturity of each category of the Global Service Catalogue in the eighteen European cities. That information will be farther used to show the Bench-learning results per city.

For each city a map comparing the city with the average result of the survey will be provided (see Figure 3 as an example). The map will have a row for each service category of the Global Service Catalogue and a column for each service maturity level. On each category the service maturity level of the city (coloured bar) is compared with the average service maturity level (blue line).
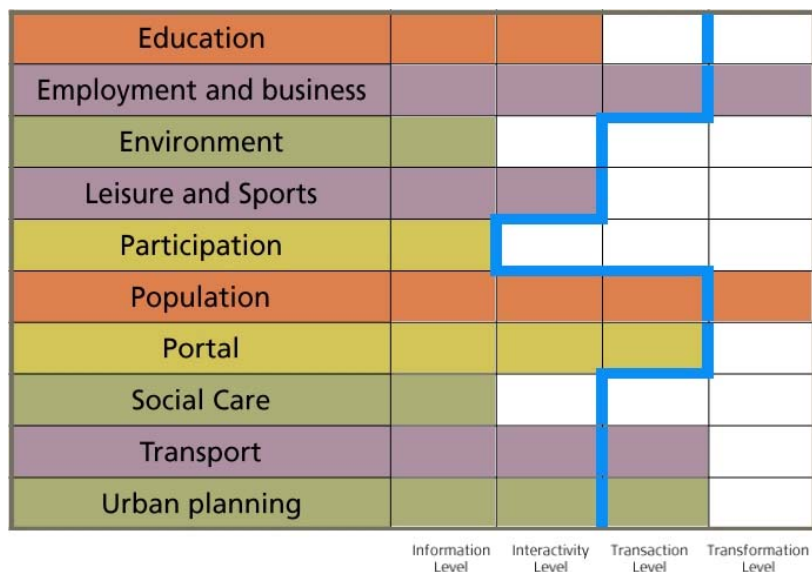
	Information Level	Interactivity Level	Transaction Level	Transformation Level
Education				
Employment and business				
Environment				
Leisure and Sports				
Participation				
Population				
Portal				
Social Care				
Transport				
Urban planning				

Figure 3: City map example

One of the advantages of this graphical representation is that it makes it possible to see from one view the position of the city compared with the European average in all of the analysed categories. At the same time, it provides a clear way to represent the obtained results without using the well-known lists or rankings of cities ordered by performance or success, or using the typical charts showing all cities results at the same time fostering the competition between cities.

City manager will see on its city map the areas in which the city is in a strong position and can provide examples of good practices to other cities. At the same time city managers can find categories in which the city is in a weak position, under the average, therefore with a clear need to improve.

As a result of the methodology used, the project will provide, as a second output, a well-grounded selection of good practices for each of the Global Service Catalogue categories. These good practices will have been selected following a deep and strict analysis of all the cases studied that made a city over the average under the scope of the project. All cities needing to improve specific services will have the possibility to access this selection of good practices to choose those that can help better to solve the services weaknesses.

6. Conclusions

This paper presented the e-Government Bench-learning Project that is being carried out by a group of 18 European cities lead by Barcelona, with the technical support of PENTEO ICT Analyst company and the Pompeu Fabra University in Catalonia as scientific advisor, within the Knowledge Society Forum of the EUROCITIES Network.

The main project outcome is to reduce the lack of information about e-Government progress at city level and provides a framework to be used in further measurement exercises. The project innovation relies in its methodology based on a bottom-up exercise in which the cities lead the process in order to ensure meaningful results to help city managers to drive the e-Government transformation. It has been designed to be mainly a learning process for all participant cities.

As it is an on going project, only the intermediate results are presented in this paper, showing the shape that the final results will have at the end of the project life.

Apart from the methodology designed, other outputs deserve to be mentioned such as the use of an extended range of levels to measure the service maturity and a new Global Service Catalogue tailored to the specific need of European cities.

In addition, the project proposes an innovative format to present the benchmarking results. It is a format designed to highlight the position of each city in respect of the average position of the European cities surveyed avoiding these competitive top-ten lists.

Finally it is necessary to remark how the methodology used in all the process provides a high value selection of good practices endorsed by the objectivity of all the followed process.

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