E-Government Implementation in Spain: the Case of the City of Benidorm

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Abstract

e-Government strategies result from the expectations from society to be able to use Internet technologies as a strategic means of communications and relationship with its public sector, virtualizing the delivery of public services. In order to meet these expectations, a state law forces all Spanish city councils to be able to provide their services electronically. A case study is presented detailing how the Benidorm's e-government strategy was devised and implemented. It may yield valuable insights into the identification and management of critical concerns during the evolvement and attainment of business process re-design in local e-government towards a citizen centric approach.

1. Introduction

Public institutions are facilitating and shaping the development of infrastructure and services and experimenting with new ways of information and services delivery via electronic channels [1, 2, 3]. An e-Government strategy is a fundamental element in the modernization process of the public sector, because it provides a wide variety of information and a form of interaction between public sector organizations, business and citizens, while improving the performance of government organizations and the welfare of citizens [4].

The term "e-Government" refers to the provision of internal administration services to its external environment, which is related directly with the need for internal transparency of the public organization. Therefore, e-Government practices must be regarded as tools for creating added value to public products and services, thus increasing governmental efficacy, efficiency, transparency and security. Simply stated, e-Government is a chance for public organizations to detect and fulfil the needs of their stakeholders more efficiently, and a means to promote a conscience of goodness regarding the development of Information Technologies (IT) [5]. For a thorough discussion on the definition of this term, a prime work would be that by Al-Sebie and Irani [6].

In accordance to its environment, Spain's central government has realised that e-Government plays an increasingly dominating role in public administrative management. In order to stimulate its presence throughout the country, the Law for Citizens' Electronic Access to Public Services ("Ley de acceso electrónico de los ciudadanos a los Servicios Públicos"), better known as "Law 11/2007", has been recently passed. Its purpose is to enforce Spain's local administrations to provide electronic access to their most important public services by 2010.

Spain is, generally speaking, a fairly advanced country in the information society, notably in the area of e-Government services and availability of broadband networks. Overall, the fully-online availability score for 2008, according to the European Union (EU), is 70%. Sophistication of online services is also above the EU average, although there is an uneven development and quality as well a lack of integration among services offered by different administrations or departments [7]. Local governments usually present the lower profiles in e-Government development.

Thus, reaching a fully developed e-Government at local administrations is among the key objectives of the Plan Avanza, the Spanish e-Government strategic plan for 2006 – 2010. It aims to coordinate the policy objectives and activities of the various regions of Spain with those formulated at the European level in the strategic framework i2010. Digital Public Services ("Servicios Públicos Digitales") is one of the five areas of performance identified in the Plan Avanza. This action area addresses new measures focused on improving the services of the public administrations, increasing the quality of life of the citizens and the efficiency of companies and acting as a financing companion of the Law 11/2007 for those municipalities that apply for it.

The purpose of this paper is to analyse the case of the Spanish city of Benidorm. Benidorm is a medium sized city on the east coast of Spain. Its strategic resource is tourism, being one of the most sought-out destinations for the vacations of Northern and Central Europe citizens, as well as for many Spanish people. In fact, there is a large number of people that has adopted Benidorm as their second residence, especially senior citizens fleeing from colder countries.

Realizing the impact that e-government practices may bring to the municipality, the council of Benidorm has designed a Strategic Plan, beyond the mere electronic access to public services, which is being currently implemented. This paper presents the contents of this e-government strategy, starting with its mission and objectives. The next section shows

the roadmap followed during the reengineering process, followed in the fourth section by the factors that helped achieving a successfully formulated strategy. The last section addresses the lessons learnt while carrying out the plan, which may be of assistance to other municipalities going under the same process.

2. Mission, objectives and resources of Benidorm's city council

E-government's most visual changes to the public service delivery process affect to the publication, distribution and electronic acceptance of forms. Enabling electronic access to services requires almost no changes, as the actual service is still conducted in the traditional manner, with the citizen receiving electronic or physical notification of the service. Those local governments that reach this level comply with the minimum requirements of the Law 11/2007. However, according to Venkatraman's model of IT- enabled business transformation [8], in order to experiment higher potential benefits the organization must go past the internal integration level and engage on to the revolutionary model of business process reengineering. Therefore, this first level of compliance falls short of a true e-Government platform [9].

These factors have been taken into account when formulating the overall strategy and its corresponding implementation of Benidorm's council e-government project. The council of Benidorm has adopted as its mission to create an image of quality for its citizens and visitors, increasing and improving its public services, and generally improving citizen's welfare by means of IT (information technologies). Several departments will be affected by this project, such as: Human Resources Management; Safety, Law enforcement and Traffic; Citizen Services; and Information Systems.

This strategy is expected to yield the following results:

- Modernization of the administrative services.
- Improvement of the coordination between departments.
- Stimulation of e-democracy and citizens' participation in governance.
- Stimulation of the development of public administration and the private sector alike.
- Increasing the degree of transparency of the administration.

Besides, the council of Benidorm expects to develop several by-products besides the automation of its public services.

1. Service charters

The purpose of public quality management programmes is to achieve excellence in the provision of e-services [10, 11]. They are usually based on the ISO 9000 standard, or on quality models such as the EFQM model, and may take the shape of public service charters or excellence awards. These programmes have a greater effect when impelled from the inside of the public organization, since they act as a self-motivating force [12].

In the case of Benidorm, the council's employees provided enough-detailed information to map a flow chart of every administrative procedure. These charts will help rationalizing the administrative processes, in the quest for service excellence. The service charts will be the visual reminder for employees and citizens of the quality goals and expectations of the municipality.

2. Citizen's webpage

For [13] one of the most relevant facilitating factors is the design of a customer-oriented website, which will provide a number of organizational, strategic and operational benefits. This includes a usable interface design, self-explanatory and friendly, so that users maximize their efficiency in terms of time and money while carrying out their transactions [14].

A user-friendly, citizen-centric portal is about to be launched, with different services available for citizens. Some of them will be open to the public in general, while those more sensitive will require digital citizen authentication (*e-signature*). Actually, this form of authentification is being encouraged by the Spanish state government with the "e-firma" programme.

3. Employees' portal

Similarly, and following the stakeholder approach, employees should be considered as internal users of the new system, and their needs addressed as such. Therefore, as a technological support for B2E (business to employee) policies, a single interface will provide the council's employees with access to all the applications needed for their daily work, including the e-service manager.

4. Redefinition of work positions

The redefinition of workflows and rationalization of processes will inevitably lead to changes in the contents of several positions. The council is seizing this chance to introduce changes in its organizational chart while adjusting people's competences and tasks towards a better performance of human resources.

The total budget for this long-term strategy is calculated to be over 700.000€, three-quarters of which are being subsidized by the central government.

3. Road map for local e-government: The reengineering process and its results.

A business reengineering process (BPR) is a strategy-driven organizational initiative to improve and redesign business processes to achieve competitive advantages in performance through changes in the relationships among management, information, technology and people [15]. [16] show how to successfully adapt traditional BPR methodologies to local administrations, emphasizing the importance of tracing a clear roadmap for change, starting with a clear mission, vision and objectives such as those shown in section 2.

The next step is to obtain the required information for the modernization process [16]. The council of Benidorm has carried out a qualitative research within its employees. In depth interviews were conducted with 25 heads of department of the City Council. The research approach was influenced by the use of stakeholder analysis for the purpose of ensuring that critical stakeholders involved in e-government were identified and their multiple viewpoints accounted in for analysis [17].

The interviews conducted with all participants were supplemented by access to internal documentation. Records were kept of the content of all interviews, in the shape of database files (figure 1). Documentary evidence of every procedure and form were used to build a catalogue of procedures as a contribution to the future development of the e-manager application.

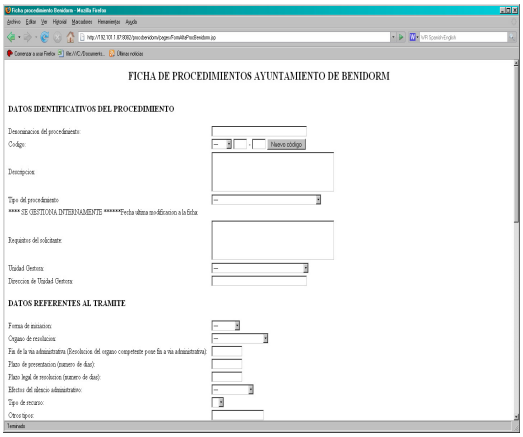

Fig 1. Interface of the database of procedures

These interviews were conducted onsite between March and April 2008. All interviews were semi-structured, and their duration varied according to the amount of workload of the department. The employees of the Council provided the information necessary to prioritize the most important services provided in their areas, identifying the core processes based on the number of occurrences, the effect in their workload, and their complexity. To ensure the objectiveness of the interviewer, they were conducted by a team from the University of Alicante, with no political or personal relation to the members of the Council.

After the diagnostic stage, [16] show that the following steps are those of business redesign itself and its implementation In Benidorm, this has been planned in four phases. The first phase deals with the objectives that are most noticeable from the users' perspective: intelligent filling web forms and acceptance of electronic submissions. Also, remote controls of traffic, intelligent traffic lights and implementation of wireless networks have a visible impact on the population as a whole.

In the short term, the main challenge for summer of 2008 is to have every citizen- oriented service available online for electronic download and submission, although the back-end system still relies on human interaction. Before loading these processes on the web, they must be restructured to reduce production and coordination costs, duplication costs and red tape.

The Council's next phase is to implement a public service manager application that facilitates multiple channel access: telephone, web and physical. This implies a partial redesign of the workflow processes of the citizen oriented services. Also, this application will be deployed in several council facilities as a one-stop-shop for most e-government services. This G2C (government to citizen) application is being developed by the private company before mentioned, and it is scheduled to start functioning by early 2009. From the employee's perspective, this application will have its mirror in an intranet G2E (government to employee) application.

In the long term, the fourth phase is to create a seamless provision and monitoring of public services from all stakeholders' points of view, integrating the G2G (government to government, or interoperability) and G2B (government to business) perspectives. Thus, the business network redesign level proposed by [8] will be reached by the 2010 due date.

Finally, a feedback system is devised to control any deviations from the schedule and levels of performance. Namely, it is expected that the internal administrative processes will suffer more than one redesign as the service manager application is developed to integrate the G2E, G2B and G2G perspectives.

Figure 2 illustrates the road map of this strategic plan.

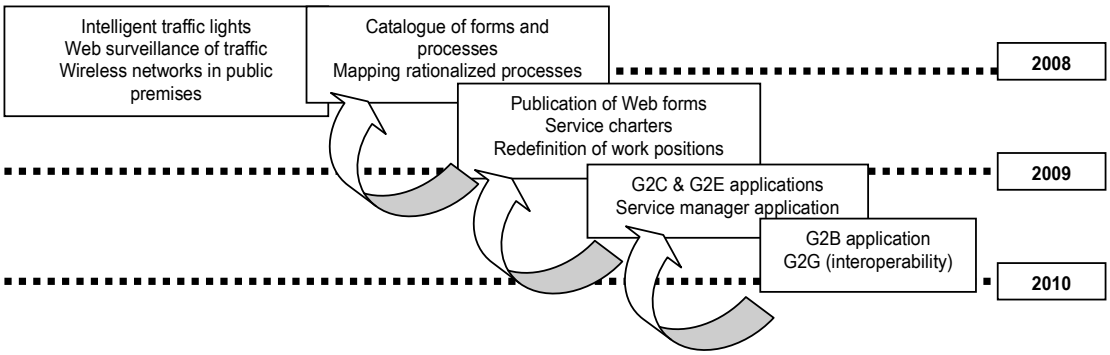

Fig 2. Road map of Benidorm's e-government project

4. Factors for success

Besides following the forma process of BPR as shown by [16], there are a number of elements that may lead e-Government strategies towards success. [18] consider the following:

- a certain level of interest and will from the politicians regarding the project;
- the ability of politicians and managers to gather resources and assistance inside and outside the organization;
- appropriate legal support;
- a good strategic planning that takes into account the actual needs of the municipality;
- and a cultural change towards the values and principles of the information society rather than keeping to the traditional bureaucratic model.

Regarding the first factor, it is absolutely necessary the tacit implication and commitment of the politicians; namely the Major of the city. Even though the positive effects that e-government based provision of public services will bring to public servants and workers, there are several islands of resistance to disclose the information needed to set up the web forms and draw the workflows that will feed the manager application. These departments required the direct intervention of the major to collaborate.

The second and the last factors were addressed by the municipality by the choice in methodology research. According to [19], public sector workers may respond positively to an initiative they perceive as contributing to the organization's mission. Therefore, implicating the employees in the definition of the processes, the redefinition of their work positions, and the design of the B2E platform, is expected to reflect positively in the change management processes that will take place. Human resource managers may thus encourage the deployment of a wide knowledge management programme associated with the organizational goals and missions of the e-Government strategy.

The third factor for success is a given, since the catalyst for this plan is the Law 11/2007.

As for the fourth factor, it means that the measures devised for e-Government implementation should be deployed according to a prior analysis of the internal and external environment. Generally, these measures will be influenced by the municipality's IT budget and the users' expectations, as proposed by the stakeholder approach [20]. To meet this goal, a parallel quantitative research has been carried out in which the citizens of Benidorm have been asked about their expectations and interests in regards to local e-Government. So far, it discloses that there is an interest for e-public services to a certain extent, but people feel that they lack in training to fully make the most of this opportunity.

Furthermore, [4] affirm that every e-Government initiative planning must formulate its strategies in the light of the business models and technology solutions that deliver in government policy. Indeed, the provision of the appropriate technical infrastructure and the redesign of local and interagency processes are the critical elements that will determine future success [9].

Following this line of thought, the council of Benidorm has devised its e-government strategy in partnership with a large IT private company, and several other smaller private companies from various industries in order to provoke a dramatic change in their provision of public services based on Internet technology. The major part of the technological support to Benidorm's local government is provided mainly by the IT company, which attempts to earn form this experience so that the expertise gained in this project might be passed on to other local governments in the near future. This makes Benidorm sort of a pilot project for the local communities of its environment.

In addition, many applications have been developed internally by the IT department of the Council, like the electronic forms (e-forms) for use on the website. These are dynamic PDF files, web versions of the

traditional paper based forms that allow for intelligent form filling. They are to promote the accessibility of public services to the citizens of Benidorm. In the near future, these forms will be supplemented with electronic authentication systems to enable citizens to do certain e-government transactions with the Council. A statistics application will calculate the uptake rate that will measure the actual success of the initiative.

5. Discussions and Conclusion

This case provides valuable insights into how the important issues of managing processes a process change in the design and implementation of an e-government strategy. The first one would be the necessity to ensure a high level of commitment from the political leaders. Such hierarchical structures need the approval of top management for every stage in the work process. Thus, explicit political support to a project is sufficient in most cases to override fear or disinterest in changes.

In relation to the hierarchical nature of local administrations, it has to be acknowledged that a complete BPR will not be possible due to the unique nature of processes of the public sector, and the existing political infrastructures and legislation. Therefore, the public services manager application is being developed around the existing government structures, with minimal changes resulting from the redefinition of work positions and the standardization of forms. This means that it is mandatory a complete understanding of the bureaucratic and complex processes under the provision of public services, so that it is possible to identify the elements that may be altered, automated, eliminated or left unchanged [9]. Also, this is a challenge for the IT company, who is in the process of developing an information systems platform to accommodate less efficient processes at a reasonable cost, rather that implementing an existing application that may require an unobtainable level of process redesign.

Another concern is that of interoperability. [21] stresses the importance of process integration between local authorities to provide seamless services to remove further inefficiencies in the provision of e-services. While interoperability is still a long term objective for Benidorm, during the development of the project we have encountered that several internal workflows collude with interagency processes, affecting already the reengineering stage in non-foreseen aspects. E-authentification based on PKI technologies that permit secure access across layers and government bodies may help overcoming this unforeseen handicap, as in the cases of Parthenay in France [22] or, closer to us, Catalonia in Spain [23].

6. References

[1] Govindarajan V. & Gupta, A. "Strategic innovation: a conceptual road map". *Business Horizons*, (44:4), 2001, pp. 3-12.

[2] Phan, D.D. "E-business development for competitive advantages: a case study", *Information & Management* (40), 2003, pp.581-590.

[3] Li, F. "Implementing E-Government strategy in Scotland: current situation and emerging issues", *Journal of Electronic Commerce in Organizations*, (1:2), 2003, pp. 44-65.

[4] Ebrahim, Z. & Irani, Z. "E-government adoption: architecture and barriers", *Business Process Management Journal,* (11:5), 2005, pp. 589-611.

[5] Claver-Cortés, E., de Juana-Espinosa, S. & Tari, J. "e-Government maturity at Spanish local levels", In *Proceedings of the 2006 EMCIS Conference*, *Alicante, Spain*, 2006.

[6] Al-Sebie, M. & Irani, Z. "E-Government: Defining Boundaries and Lifecycle maturity". In *Proceedings of the 3rd European Conference on e-Government*, *Ireland: Trinity College of Dublin,* 2003*,* pp. 19-29.

[7] European Union (2008). Benchmarking i2010: progress and fragmentation in Europe's information society. Retrieved from http://ec.europa.eu/information_society/eeurope/i2010/docs/annual_report/2008/sec_2008_470_Vol_1.pdf

[8] Venkatraman, N. "IT-Enabled business transformation: from automation to business scope redefinition", *Sloan Management Review*, Winter, 1994, pp. 73-87.

[9] Hughes, M.; Scott, M. & Golden, W. "The role of business process redesign in creating e-Government in Ireland" *Business Process Management Journal,* (12:1), 2006, pp. 76-87.

[10] McAdam, R. & Walker, T. "Evaluating the best value framework in UK local government services", *Public Administration and Development,* (24:3), 2004, pp. 183-196.

[11] Teicher, J.; Hughes, O. & Dow, N. "E-Government: a new route to public sector quality", *Managing Service Quality,* (12:6), 2002, pp. 384-393.

[12] Irani, Z., Khoumbathi, K., & Themistocleous, M. "Conceptual Model for the Adoption of Enterprise Application Integration in Healthcare Organizations", In *Proceedings of the America's Conference on Information Systems, Tampa (Florida), US,* 2003.

[13] Janssen, M., Gortmaker, J. & Wagenaar, R.W. "Web service orchestration in public administration: challenges, roles and growth stages", *Information Systems Management*, (23: 2), 2006, pp. 44-55.

[14] Pieterson, W., Ebbers, W., & Van Dijk, J. "The opportunities and barriers of user profiling in the public sector", In *Proceedings of the 2005 EGOV, Copenhagen, Denmark*, 2005.

[15] Harmon, P. *Business Process Change: a manager's guide to improving, redesigning and automating processes*, Morgan Kaufmann Publishers, San Francisco, 2003.

[16] Stemberger, M.I. and Jaklic, J. "Towards e-government by business process change – a methodology for public sector", *International Journal of Information Management*, (27), 2007, pp. 221-232.

[17] Tan, C.; Pan, S. & Lim, E. "Managing Stakeholder Interests in e-Government Implementation: lessons learned from a Singapore e-Government Project", *Journal of Global Information Management,* (13 :1), 2005, pp. 31-53.

[18] Criado Grande, J.I. & Ramilo Araujo, M.C. "E-Government in practice. An analysis of web site orientation to the citizens in Spanish municipalities", *The International Journal of Public Sector Management,* (126: 3), 2003, pp. 191-218.

[19] Yao, L.J., Kam, T.H.Y & Chan, S.H. "Knowledge sharing in Asian public administration sector: the case of Hong Kong", *Journal of Enterprise Information Management*, (20:1), 2007, pp. 51-69.

[20] Scott, M.; Golden, W. & Hugues, M. "Implementation strategies for e-Government: a stakeholder analysis approach", In *Proceedings of ECIS: The European Information Systems Profession in the Global Networking Environment, Turku, Finland*; 2004.

[21] Choudrie, J. "Horizontal process integration in e-Government: the perspective of a local UK Authority", *International Journal of Electronic Research*, (3:3), 2007, pp. 22-39.

[22] Chaussoneaux, J. Parthenay, Digital City. Retrieved from http://www.egovinterop.net/Res/5/PARTHENAY%20Case%20study.pdf

[23] Albors, I. CAT 365- Open administration of Catalonia. Retrieved from http://www.egovinterop.net/Res/5/CAT365%20Case%20study.pdf