e-Government in Greece: Bridging the gap Between Need and Reality

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Abstract: Currently in Greece, the Operational Programme for the Information Society (OPIS) is promoting ICT in the public sector. However, a content study of Greek government websites reveals that at local level e-Government has generally not progressed beyond the information presentation stage. The findings of an online survey of government employees and interviews with key government officials suggest reasons for this. Recommendations are made for facilitating the development and implementation of full interactive local e-Government.

Keywords: Information society, e-Government, EU, Greece, public sector, local government

1. Introduction

In June 2000, the European Conference endorsed the eEurope 2002 Action Plan designed to develop a "competitive, dynamic and knowledge-based" European economy based on ICT (Europarl, 2000). The eEurope 2002 plan had three objectives: "a cheaper faster more secure Internet; investment in people and skills, and stimulating the use of the Internet"(eEurope, 2005). The aim, articulated at the Lisbon Summit of March 2000, was to make Europe "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" by 2010 (Sjaastad. & Thomassen, 2004).

This plan was superseded by eEurope (2005), presented to the Seville European Council in June 2002, which stated that "modern online public services" including "e-Government, e-learning services, e-health services" as well as "a dynamic e-business environment" should be prevalent in the EU by 2005. It was claimed in the plan that the "widespread availability of broadband access at competitive prices" operating in tandem with "a secure information infrastructure" would be critical to the successful implementation of the strategy. In a further refinement of the strategy, in September 2003 the European Commission defined e-Government as "the use of information and communication technology in public administrations combined with organisational change and new skills in order to improve services and democratic processes and strengthen support to public policies" (Europa, 2005). This definition could be described as the mission statement for e-Government in the European context, and implied that enhancing the democratic process was just as important as improving public services. In many ways the rhetoric surrounding e-Government initially echoed that of advocates of the expansion of ICT in the private sphere. There, for example, talk of open, transparent organisations evolving into flatter more democratic structures is a repeated theme (Healy & Iles, 2003). During this period, European Commission documents concerning e-Government talked of empowering citizens, "the improvement towards more transparent, accountable and open public institutions"; the fight against corruption and fraud; and the re-enforcement of democracy (Liikanen, 2003).

By October 2004, the focus of the EU's e-Government drive had undergone a significant policy shift. Now the e-Government target had become the improvement of public "administrative efficiency", recalling the objectives of the Lisbon Summit. In short, the dual focus on democracy and efficiency was effectively dropped in favour of the latter. At the same time, the EU was expanding from 15 to 25 members states. As a result, a persistent theme in many of the eEurope 2005 documents was the need to use ICT to encourage inclusiveness within the enlarged Union. Despite this, the emphasis was increasingly concerned with the efficient delivery of services.

The change in direction was articulated through the specific targets outlined in the eEurope 2005 Action Plan which covered interactive public services, public procurement, Public Internet Access Points (PIAPs), interoperability, culture and tourism; and secure communications between public services (European Commission, 2004a). Each of these areas had specific target dates by which a number of objectives had to be completed. For example, by the end of 2005 member states have been urged to ensure that…

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> *"…basic public services are interactive, where relevant, and accessible for all. The Commission and Member States must agree on a list of public services for which interactivity and interoperability are desirable. Relevant issues include exploiting the potential of broadband networks and multi-platform access, and addressing access for people with special needs..." (European Commission, 2004a).*

More recently, John Borras (2004) of the UK e-Government Unit has emphasised that "e-Government strategies are about harnessing the information revolution to improve the lives of citizens and businesses, and to improve the efficiency of government". However, none of the twenty basic supply-side public services key indicators defined by the European Commission to monitor progress on e-Government relates directly to e-democracy. In spring 2005, the European Council will undertake a mid-term review of the Lisbon objectives, and the evidence so far indicates that there has been less progress than anticipated. In the circumstances it is likely that the development of e-Government will focus ever more tightly on the efficient delivery of public services.

Given this focus, any exploration of e-Government should direct its attention to how EU member states have been in using ICT to improve the efficiency of public services and government as well as determining the extent to which these services can be effectively accessed and used online. Evidence collated by Eurostat in 2003 found, not surprisingly, a significant variation across member states in the extent to which e-Government strategies had been met (Eurostat, 2004). Whereas Denmark, Finland and Sweden had well-developed Internet interaction between government and businesses and citizens, Germany and the UK needed to enhance their provision. It was decided to focus this study on a particular case in order to illustrate the difficulties with implementing e-Government strategies and to identify the challenges facing the public sector. This paper concentrates on local government in Greece, and will now outline briefly some of the recent key developments in that country.

In February 1999, the Greek government published a paper 'Greece in the Information Age Strategy and Actions' (Greek Government, 1999). According to official reports and statements, the Greek Government was keen to promote ICT in general and e-Government in particular. However, relative to the then 14 other EU members, Greek online capability was low, with Internet household penetration less than 14% in 1999, a figure that increased only marginally between 2001 and 2003. On a range of measures including Internet access by household; Internet hosts; and PCs per 100 inhabitants, Greece in this period was bottom of the EU league (ITU, 2004). Despite more recent data indicating that within Greece Internet access is growing, it still is low compared with other EU countries' (ClickZ Network, 2005).

In addition, the broadband penetration rate in Greece is very poor. In January 2004, Greece held bottom place of the 15 members of the EU with just 0.1% penetration compared with the EU average of 6.1%. Four member states had achieved penetration rates higher than 10% in 2004, Denmark being top place with 12.7% (European Commission, 2004b). A year later, Greece had made little progress and remained in bottom place, the only EU member state with lower than 1% broadband penetration. The EU average in 2005 had risen to 10% for the old 15 states, and the average for all 25 states was 9%. Ten states had achieved more than 10% penetration, the Netherlands being in top place with 19% (European Commission, 2005).

The Community Support Framework 2000-2006, known as 3rd CSF, is "the development plan, agreed and adopted by both the Greek Government and the European Commission, to deliver assistance to the Greek regions for the period 1/1/2000 to 31/12/ 2006" (HellasKPS, 2004). This plan seeks to address a number of the ICT inequalities mentioned above.

> *"The 3rd CSF was approved in July 2000 and signed in November 2000. While the main priorities of this development programme were defined in cooperation with the Commission, the choice of projects and their management are solely the responsibility of the Greek national and regional authorities. Once projects are selected, they are financed from both national and community funds, since programme budgets always comprise European Union funds as well as national sources (public or private). The 3rd CSF aims to reduce the gap between Greece and the other member states of the European Union. Its priorities focus on investment in natural, human and knowledge resources." (HellasKPS, 2004)*

An explicit part of this programme is the focus on ICT and is the responsibility of the Operational Programme for the Information Society (OPIS). OPIS is "an innovative horizontal programme, cutting across government departments, which aims to implement the essential features of the 1999 White Paper of the Greek government entitled *Greece in the Information Society*. It also follows through the eEurope initiative and the

conclusions of the Lisbon Summit of March 2000" (Infosociety, 2004).

OPIS is in effect a managing authority acting as an agent for the Ministry of Economy and Finance Secretariat for the Information Society. "Among the main objectives are to improve the competitiveness of the Greek business (in particular small and medium sized enterprises which are 98% of the total enterprises in Greece), to achieve higher quality of life and standards of living using ICT for better public administration (e-Government), better health services (e-health), better education, etc." (Mavrotas *et a*l, 2004).

There has been a degree of success in the development of e-Government at a national level. *Taxis* (an online tax facility); the National Printing House; *IKAnet* (a national insurance transaction facility); and *Syzefxis* (the national public administration network) are some of the examples of progress thus far (Greek Government, 2002). The *Syzefxis* programme is a project of the Greek Ministry of the Interior, Public Administration and Decentralization that aims to develop "an effective public administration with a modern information and telecommunications infrastructure and the easier coordination of state processes through IT and Tele networking" (Informatics Development Agency, 2004). Phase A of the project is included in the Operational reform Programme (OP) *Kleisthenis* whilst phase B will be included in the OPIS. In addition, a significant number of national public services had an online presence although there is a wide variation in their interactive capability. There has also been progress in the building general information sites and portals.[1] "The state organizations, which will be finally connected with the Public Administration's network, are the central and regional administration as well as the prefectural and local administration." For the project's pilot phase a representative group of 15 state organisations has been connected to a network, which will be "characterized by technical and functional completeness" (Informatics Development Agency, 2004).

Looking more specifically at local government, the Ministry of the Interior, Public Administration and Decentralisation implemented an OP called *Politeia* which "is the main element of a co-ordinated effort to promote reform of the structure and activity of public administration, with the primary aim to improve services offered to the public" (OECD, 2004). As part of this effort, Citizens' Service Centres (CSCs) designed as 'one-stop' shops for services to the citizen, were introduced under the Ariadne Project, and operate using up-to-date ICT. These centres "are institutions, running under the supervision of Greek local municipalities, realising a flexible citizen-centric mechanism, which aims to increase the flexibility and efficiency of the way citizens interact with the public sector" (Tambouris *et al*, 2004). Citizens using portals at the CSCs can obtain applications of around 851 standardised administrative services covering virtually all the public sector.

2. Methodology

In order to study the use of ICT in local government in Greece, various approaches were adopted. Mingers (2001) argues that different research methods focus on different aspects of reality and that therefore a richer understanding of a research topic will be gained by combining several methods together. Data were collected using a website content study, interviews, and using an online survey of mainly local government employees.

A content study of 460 central, regional and local government websites in Greece was conducted in August 2004. The Hellenic Agency for Local Development and Local Government (EETAA) maintains an online database of the local authorities in Greece that have a web presence.[2] All of the websites listed were visited.

Recognising there is no agreement on appropriate bench-marks or what constitutes an effective government website (West, 2004), the local government websites were reviewed on their operational state and what sort of interactive features they provided. Moreover, contact details such as email addresses were examined from the published list on EETAA's website.

Semi-structured interviews with major players in e-Government in Greece were carried out. The Secretary General for the Information Society and Head of the Information Society (OPIS) Managing Authority were interviewed. The Information Society Secretariat is a Ministry of Economy and Finance Agency responsible for promoting the Information Society in Greece and handling all EU funding destined for these programmes via its Managing Authority. Telephone interviews were conducted with officials from the Hellenic Agency for Local Development and Local Government, the Central Union of Municipalities and Communities of Greece and the General Secretariat of Public Administration and E-Government (an Agency of the Ministry of the

[1] These sites include: www.e-gov.gr, www.gspa.gr, www.ypes.gr, www.infosociety.gr, www.ebusinessforum.gr, www.goonline.gr and www.sch.gr

[2] www.eetaa.gr/cgi-bin/msql/foreis/01

Interior). To obtain information about the infrastructure and Internet penetration in Greece from the user's perspective, the Head of the Market and Competition Department of the National Telecommunications and Post Commission was interviewed.

An online survey of local government employees was undertaken, accompanied by email invitating respondents to participate. This method had the advantages of response speed and low cost. Also, because of the distances involved, it was impractical and financially unfeasible to access the sample in Greece by other means. The sampling strategy used was 'probability sampling' (Blaxter *et al.*, 2001) with a combination of random and systematic sampling. Respondents were chosen at random from the alphabetical lists of local authorities in Greece who had a web presence. Other respondents were added from the list of the Regional Authorities which the Central Union of Municipalities and Communities of Greece maintains on its website. In addition, a small percentage of respondents were added either for information only or out of courtesy for their help or contribution to this research. In total, 248 emails were administered.

An email was sent to the respondents explaining the purpose of the survey, how the sample was chosen and containing contact details as well as a statement that the questionnaire was confidential, anonymous and there was no obligation arising upon its completion. Attached to the email was a downloadable questionnaire. Thus, three choices of completing and returning the questionnaire were given: online, by email and by post.

A ten-item questionnaire was used, based on the Haart/Teeter national public opinion survey of government workers on e-Government conducted on behalf of the US Council for Excellence in Government (Hart/Teeter, 2003). Data collected included:

- service or agency the respondent worked for
- position held (administrative, technical or elected)
- whether their agency/department had a public website
- which services their agency/department provided over the Internet (if any)
- what other services the respondent thought should be provided over the Internet
- whether their agency/department was participating in any pilot projects, actions or measures of the 3rd Community Support Fund
- whether their agency/department was planning to increase their web presence
- a rating on the importance government agencies communicating clearly to users the privacy and security policies that apply to their websites
- opinion on what should be the government's top priority for government websites
- Identification of obstacles to e-Government.

3. Results obtained

According to the Central Union of Municipalities and Communities of Greece (ΚΕΔΚΕ, 2004), there are two tiers of local government and regional administration in Greece, as a result of the recently reform under the *Kapodistrias* Municipal Code (1995) which came into force in 1999:

- 13 regions (peripheries)
- 51 prefectural authorities, including 3 extended prefectural authorities and
- 1,031municipalities (130 urban municipalities – *dimi* and 901 rural communities – *kinotites*)

Under the *Kapodistrias* reform, the number of local authorities was reduced from 5,775 to 1,031 in order to create a strong first-tier local government.

Out of the 1,031 local authorities, 641 were listed on the EETAA database along with 42 out of the 51 prefectural authorities, as well as 49 Local Unions of Communities and Municipalities (ΤΕΔΚ) and 133 Municipality Development Agencies (Δημοτικές Επιχειρήσεις). None of the regional authorities was listed. (With regard to the first tier of government authorities, 63% in total were listed.) Overall, out of the 865 authorities and agencies listed, 460 had websites (53%) whilst 754 (87%) provided an email contact address on the EETAA list. Nevertheless, it was discovered subsequently that not all were operative, as 16% out of 248 emails bounced back whilst trying to administer the survey questionnaire.

The operational state of the 460 websites visited was: 364 of the websites (77%) were working, 96 (20%) returned an error page response and 12 (3%) were under construction. With regard to interactive features, 93 had a second and sometimes a third language option. A few stated that the language option was under construction, but only on the tourist page. Whilst the majority of municipalities' websites had available contact information via email or the facility to submit a form request by email using mailer Active Server

Pages (Mailer ASP), only a few provided an email directory of their departments or employees. The contact information provided most frequently was telephone numbers or extensions. Eleven percent of the municipality and rural community websites had other interactive features such as instant polls about current issues (e.g. Olympic Games), weather reports and a live webcam link. In general, the most commonly found online interactive services included requesting information or services and filing complaints by completing a form.

The response rate of the survey was 18%. An examination of the responses shows that, along with the lack of or limited responses from regional and prefectural authorities, there is a different perception of e-Government in different levels of local government. Furthermore, although the majority of the respondents were working for municipalities and rural communities, there were a number of responses from Ministries as well the National School of Public Administration & Local Government and the Hellenic Agency for Local Development and Local Government. These respondents had a stake in promoting e-Government, being responsible for the proliferation of ICT in public administration. The majority of the respondents were administrative personnel in elected councils, although there were some technical personnel and an elected respondent. Moon (2002) argues that managers in council-manager municipal governments tend to be more proactive in introducing technological innovations such as web technology to the public sphere than mayors who are elected officials and tend to hold political views. The fact that replies were made up to the end of November 2004 (way beyond the deadline given to the respondents) could be attributed to the authorities and local authorities' employees' reluctance to act without prior authorisation from above.

There was a variety of services provided online by the websites of the respondent authorities but none of them provided web-based services for any online transactions. The most popular services concerned provision of tourist information, maps, cultural information and downloadable documents and forms. However, when asked "What other services do you think should be provided online?" several respondents indicated that they would like to have on their websites more interactive services for both citizens and businesses, as well as real-time updates about executive decisions, local authority legislation, and other issues. The latter response shows a desire for democratic responsiveness. Although only 67% of the respondents surveyed confirmed participation in a pilot programme, action or measure of the 3rd CSF, they were all aware of it, as the 3rd CSF, which includes OPIS and other regional development projects, is the main financing tool. This could corroborate the response to the next question which asked if they were planning to increase their web presence, where 81% answered affirmatively. Of the remainder, 5% responded No, and 14% did not know. Online security and privacy were rated highly on the agenda by the respondents, both in terms of informing and reassuring the citizen, and as a top priority for their authorities' websites. Other priorities included the need for a wider participation and openness and providing more user friendly interfaces.

4. Discussion: Implications for research and practice

e-Government develops in stages. However, the relationships and stages of e-Government are more complex than in electronic commerce in general. In recent years, conceptual frameworks for the evolution of e-Government have been developed.

Hiller & Belanger (2001) suggested that "e-Government can be considered through two lenses: the type of relationship and the stages of integration" and offered five stages of development for e-Government. Layne & Lee (2001) regarded e-Government as an evolutionary phenomenon and suggested a four-stage growth model: (1) cataloguing, (2) transaction, (3) vertical integration, and (4) horizontal integration. For the purposes of this discussion the framework devised by Reddick (2004), who examined both of the above models and concentrated on two of the four stages proposed by Layne & Lee – cataloguing and transactions – will be used. Like Hiller & Belanger, he conceded that stages of growth are combined with major types of e-Government relationships: "E-Government can involve electronic relationships between government and different levels of constituents." The first relationship identified is government delivering services to individuals or rather citizens (G2C); the second is government to government (G2G)/ and the third, government to business (G2B) – see Table 1:

Table 1: Stages of e-Government growth and type of government relationship

Type of government relationship	Stages of e-Government growth	
	Stage I: Cataloguing	Stage II: Transactions
G2C	Online presence of information about government and its activities for citizens. Example: council meeting minutes online.	Services and forms online and databases to support online transactions for citizens. Example: online payment of taxes.
G2G	Online presence of information for other levels of government and its employees. Example: intranet with benefits information.	Services and forms online and databases to support online transaction for other levels and government and employees. Example: provide online training.
G2B	Online presence of information for businesses about government. Example: online product review of office supplies.	Services and forms online and databases to support businesses transactions with government Example: make purchases of office supplies online.

Source: (Reddick, 2004).

The application of Reddick's model of e-Government development to the survey findings illustrates that:

- The Government to Citizen relationship (G2C) provision by the local authorities is largely in the first stage of cataloguing information. There is also a correlation between the size of the municipality or rural community with its online presence (if any).
- The Government to Government relationship (G2G) is virtually non-existent at a local government level despite the optimism of the *Syzefxis* pilot network implementation at the central government layer.
- The same could be said for the Government to Business relationship (G2B), as local government authorities either do not participate or are not included in the e-procurement project which is yet to be implemented by the General Secretariat of Commerce.

e-Government growth at a local government level in Greece is not aligned with the progress that has been made in the central public administration layer. The results of the content study indicated that different municipalities had different types of websites. There was no correlation however between the size of cities or municipalities and communities and their sites.

The content study also found that there was no common framework for the design of the websites; in fact it was found that their designs varied significantly. Certain prefectures however, such as Fokida and Dodekanisa, had a universal design template for their municipalities' and communities' websites, although the former was fretted with (encoding) problems.

The progress of the OPIS shows that the take-up rate of contracts is slow, as there is a certain procedure that has to be followed, and thus it becomes a long project that does not necessarily fit with the short life cycle of ICT implementation.

The survey results also suggest that there are serious institutional obstacles to e-Government evolution such as the lack of familiarisation of employees with new technologies and lack of management support. The lack of financial resources and issues of security/privacy are considered to be major obstacles too – see Figure 1 below:

These barriers, in combination with the inability to recruit qualified personnel and the entrenched operating procedures, highlight the need for institutional change and re-engineering of the business processes.

5. Conclusions

Evidence has been presented that shows the implementation of websites by municipal and rural community authorities in Greece is a recent phenomenon. There is however an indication of enthusiasm and optimism as evidenced by both the survey findings and the interviews conducted. Moreover, there is a yearning for democratic responsiveness and outreach which is both positive and encouraging as e-Government will enhance service delivery for local government authorities in the most effective way.

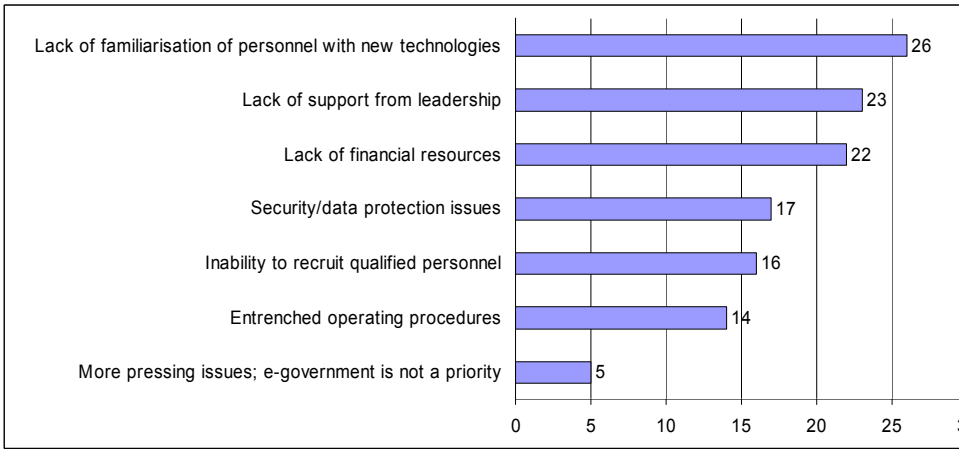

Figure 1: Possible obstacles to e-Government implementation

Funding the e-Government infrastructure and development is quite a challenge for local authorities in Greece, especially after the reform for local authorities and regional administration brought by the *Kapodistrias* Municipal Code involving some decentralisation of power and financial autonomy.

A well-defined national framework that will identify necessary funding and resources, similar to that in the UK, is essential. Also recommended is the establishment of an e-Government Unit that would be responsible for implementation, co-ordination between ministerial agencies already involved, and monitoring of national projects.

Institutional and organisational change is imperative, as well as education and training on the new technologies for local government employees. Furthermore, local government business processes re-engineering should be considered prior to a catholic adoption and implementation of e-Government.

In bridging the digital divide, the swift development of broadband infrastructure and propagation of Internet penetration should be undertaken by the Greek administration, not only for the public sector and business but also for citizens. These targets are already laid out in the European Initiative eEurope 2005 of which Greece is a participant. So far, a working group has been set up and they have decided on nine points for the 'Broad Band Strategy of Greece'. It remains to be seen what the outcomes will be.

Finally, more interactivity in transactions with the citizen, building trust and creating portals by integrating many services together are some of the measures needed, since the potential for a full democratic outreach and increase of responsiveness is there.

Further useful research would be a comparative study of EU countries that have achieved the best, the worst and in-between levels of e-Government to try and identify which factors are associated with progress and lack of progress in e-Government. The findings of such research could enable the most effective targeting of resources in countries like Greece. In Greece itself, further research needs to be conducted including an evaluation of local and central e-Government in order to assess integration and public participation.

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