

Untangling Public Service Usage for Agribusinesses with Dialogic E-government

Sotiris Karetzos, Maria Ntaliani, Constantina Costopoulou,
and Alexander B. Sideridis

Informatics Laboratory, Agricultural University of Athens, 75 Iera Odos str,
11855 Athens, Greece

{karetzos,ntaliani,tina,as}@aua.gr

Abstract. E-government has raised many expectations to public administration employees, businesses and citizens, regarding the simplification of their transactions. Nonetheless, in practice the provision of electronic services is followed by much complexity in the way they are used. A common phenomenon is the confusion of businesses on various issues connected with public service use, such as which public service to use to cover their needs, whether they are eligible to do so, and which agency they should address to. Therefore, the paper tries to address such issues by presenting a dialogic information service for helping agribusinesses' employees to find easily appropriate public services for their business needs and using them without having to search relevant legislation or various public agency Web sites. The proposed service comprises a new extension of the pilot system Agroportal, and has been based on the methods and tools of a European project.

Keywords: Electronic government, portal technology, agribusinesses.

1 Introduction

Electronic government (e-government) is continuously changing the way that businesses, citizens and governments transact, and the way that public services are governed and delivered. Governments, in order to promote citizens and businesses participation, deliver various types of services through their Web sites like e-mails to contact government officials, surveys assessing citizens' opinion about service delivery, forums for citizens to raise opinions on different issues, like policies, environment, etc. [1]. Towards this direction, the i2010 Action Plan focused on the development of such enabling conditions. There is no doubt that these initiatives have created the conditions for the development of e-government in the entire European Union (EU).

However, delivering such services through government Web sites is not enough. Although e-government has raised many expectations towards the simplification of public service transactions, in practice the provision of electronic services is followed by much complexity in the way they are used. A common phenomenon is the confusion of businesses and citizens on various issues connected with public service

use, such as which public service to use to cover their needs, whether they are eligible to do so, and which agency they should address to.

Being that the case, it is usual that a business applies for a service merely because another one has done so. Also, businesses tend to use services that provide subsidies even though they are not aware about their requirements or their final output. For example, recently at the Centre for Genetic Improvement of Animals located in central Greece, more than 500 applications have been submitted by livestock farmers in order to enlist their farms in pedigree books. The investigation of these applications required scheduling approximately 60 on the spot inspections at the livestock farms by 8 public servants. Obviously, the administrative, economic and time costs for livestock farmers and the public agency were considerable. However, only 8% of the applications corresponded to actual needs, while the rest of them did not fulfill the relevant criteria.

The aim of this paper is twofold: firstly to present the progress of e-government in Europe and especially in Greece and secondly to implement a dialogic information service for helping agribusinesses' employees to find easily appropriate public services for their business needs and using them without having to search relevant legislation or various public agency Web sites. Therefore, the structure of the paper is as follows: the following section provides an overview of the e-government status in Greece with reference to the agribusiness sector. The third section presents the Agroportal system and provides a structured dialogue that helps agribusinesses among others, to find out whether they are eligible for a specific public service. The fourth section concludes the work and provides directions for future research.

2 Electronic Government in Greece

The i2010 e-government Action Plan was designed aiming at modernizing public services and making them more efficient and more targeted to the needs of different population groups. To do this, it has proposed a series of priorities and a roadmap to accelerate the deployment of e-government in the EU. The measurement of progress is based on 20 basic services (12 for citizen and 8 for businesses). EU shows a continuous progress according to the full online availability indicator. The overall EU measure has risen to 71% in 2009 from 59% in 2007. According to the sophistication indicator EU stands at 83%, compared with 76% in 2007. However, the report indicates that the difference across countries is still significant [2].

Greece is taking on the challenge to enable a step change in its Information Society performance. It is prioritizing its investment in information technologies to become more competitive. Greece's recent efforts have led to 83% e-government usage among businesses, compared to 68% of the EU average. However, e-government use by citizens has stalled and online availability remains below the EU average (10% compared to 28% of the EU average). The households and businesses with broadband connection are 31% and 74%, compared to 60% and 81% of the corresponding EU averages. Also, Greece and Ireland are the only EU countries that do not have a national electronic procurement platform or portal. These scores put Greece in the

bottom of EU countries scale for the two core indicators, namely availability and sophistication [2]. Moreover, Greece recognizes the need for enhancement of the population as well as for ease of access for rural areas and has announced the “Rural Broadband project”. This project will provide broadband Internet connections for more 820.000 people living in rural areas.

As far as the agricultural sector is concerned, a close investigation reveals that the e-government progress that the Greek Ministry of Agriculture (MoA) succeeded the last seven years (2005-2011) is insufficient. The platform of the main Web site has not been updated and may be characterized as rather outdated in terms of look and feel, usability and technologies used. It mainly provides information and news at its first (home) page and only in Greek language. The English language version is very poor, not updated for many years and several links are broken.

However, the MoA has announced the implementation of six electronic services, namely: permissions for distribution of fertilizers, agro-environmental plans, announcements for trading perishable agricultural products, permissions for production and trade of propagule, permissions for organic agriculture. Currently, five of them are at analysis or design phase and only one is marked as completed (analysis and design phase, not the implementation phase). Moreover, the MoA supervises agencies that have developed independent portals or Web sites that offer mainly information. A notable exception is the Greek Agricultural Payment Agency (OPEKEPE in Greek) by offering adequate number of electronic services for farmers and agribusinesses, such as the following: integrated system of business unified application, electronic economic supports, agricultural consultants, electronic cotton management, tobacco reconstruction system and distribution control of animals and meat.

3 An Innovative Dialogic Informative Service

Agroportal system (<http://meli.aua.gr/agroportal>) is an e-government portal that has been implemented under the research project “Pythagoras: A pilot system for electronic agricultural services”, which has been funded by the European Union (75%) and the Greek Ministry of Education (25%). Agroportal aims at supporting agribusinesses in transacting with Greek agricultural governmental agencies [3].

The necessity for deploying Agroportal has been evinced by thorough research (of literature, the Internet, and questionnaires), showing that the provided e-government services for agribusinesses are insufficient in terms of variety and content. The Web sites providing them are not linked and not updated for many years. The ways of accessing them are inflexible, neglecting a major preference trend of agribusinesses towards mobile phones. An agribusiness can access the Agroportal through a PC with connection to the Internet in order to access information and governmental services, as well as send and receive Short Message Service (SMS) messages to a mobile phone in order to request information or apply for a public service. Agroportal provides the following types of services [4] [5]:

- **Information services:** providing information on agricultural fields, statistics, characteristics of agricultural products, cultivation techniques and bibliography; news for events, conferences, new regulation and other; useful links; frequently asked questions; and weather forecast.
- **E-government services (electronic government to business-G2B):** providing information about completing a process (e.g. acquiring a certificate); form/application download; and electronic submission of forms.
- **M-government services (mobile G2B):** providing information via SMS messages for: agricultural products and their cultivation; epidemic alerts for the outbreak of an epidemic and proposing measures for confrontation; weather alerts for extreme conditions; legislation news for the issuing or abolition of related law; administrative information for deadlines (e.g. submission of applications); market information for traders, wholesalers, processors (e.g. price tendencies, demand forecasting and trends); chat among agribusinesses.
- **Value-added Services:** enabling the communication between agribusinesses and government agencies through synchronous communication methods (e.g. real-time chat), as well as asynchronous communication methods (e.g. email, forum, private messages).

The Agroportal system has been extended with new services for the informative stage of a public service, namely information that a business should know before executing a particular public service (e.g. its eligibility to perform a service; the public agencies that are responsible for it; and what kind of documents should adduce so as to apply for the service) [6]. These new services are described as follows:

- **Dialogic Informative e-Services:** providing a structured dialogue that helps agribusinesses among others, to find out whether they are eligible for a specific public service or not; and if eligible to personalize the public service related information according to their profile and their specific needs.

The importance of such services lays on the facilitation of businesses in finding information for the “informational phase” of public services, namely for information that a business should know before executing a particular public service. Such information concerns the business’s eligibility to perform a service, the public authorities that are responsible for it or what kind of documents the business should adduce so as to apply for it. This information is determined by laws and regulations that in many cases are very complex, regularly change and cause errors of ignorance, confusion or misinterpretation. This complexity constrains business dexterity and induces imparity, since it limits the effectiveness of government’s incentives for businesses, creates a barrier for applying to development frameworks and is a potential source of fiscal corruption across public agencies. On the other hand, the provided dialogic services “decode” laws and regulations into simple dialogues that are highly descriptive, explicit and accurate. Therefore, they drive e-democracy by increasing the efficiency of G2B services and enabling business’ participation in them.

The service model of the dialogic informative e-services has been based on relevant work undertaken in the context of the “Rural Inclusion” project (www.rural-inclusion.eu). Currently, the dialogue (Fig. 1 in Greek) concerning the “Issuance of permit of agricultural truck” service has been implemented. Instead of searching regulation, visiting or calling a public agency for finding information on eligibility of use and how to apply, a farmer can just answer a series of simple questions, such as: “Is farming your main occupation?”, and “Are you registered in an agricultural cooperation?”. The service can be used via the following URL: http://meli.aua.gr/agroportal/process/process_q1.htm.

Ε-GOVERNMENT AGRICULTURE

Επισκεφθείτε το Agroportal Επικοινωνία

Διερεύνηση Διαδικασίας για:
Έκδοση Άδειας Κυκλοφορίας Φ.Ι.Χ. Αυτοκινήτου

E1: Είστε κατά κύριο επάγγελμα αγρότης; NAI

E2: Τα ετήσια εισοδήματά σας ξεπερνούν τις 20.000 Ευρώ; OXI

E3: Υποβάλλετε φορολογική δήλωση την τελευταία πενταετία; NAI

E4: Έχετε εκδώσει πιστοποιητικό περιουσιακής κατάστασης; NAI

E5: Είστε εγγεγραμμένος σε αγροτικά συνεταιρισμό; NAI

E6: Έχετε εκδώσει φορολογική ενημερότητα; NAI

E7: Έχετε καταβάλει τις ασφαλιστικές σας εισφορές στον ΟΓΑ; NAI

Λαμβάνοντας υπόψη τις απαντήσεις που έδωσατε έχετε το δικαίωμα έκδοσης άδειας κυκλοφορίας Φ.Ι.Χ. αυτοκινήτου. Μπορείτε να [υποβάλλετε ηλεκτρονικά το αίτημά σας](#) μέσω της διαδικτυακής πύλης [Agroportal](#).

[ΕΠΙΛΕΞΤΕ ΤΟΝ ΔΙΑΔΙΚΤΥΑΚΟ ΔΕΣΤΙΝΟ ΤΟ ΠΡΟΤΥΠΟ ΑΠΟ ΤΗΝ ΑΡΧΗ](#)

Fig. 1. Agroportal dialogue for the service “Issuance of permit of agricultural truck”

Agroportal is a pilot system and currently it is operated by the Informatics Laboratory of the Agricultural University of Athens. For the modelling of the e-government services that the Agroportal system provides the Business Process Modelling Notation (BPMN) has been used. BPMN is a standard for business process modelling, and provides a graphical notation for specifying business processes. The objective of BPMN is to support business process management for both technical and business users. The Agroportal implementation is based on Internet technology, uses open source software, requires minimal investment and provides a cheap way of carrying out a set of G2B transactions.

4 Conclusions

Following the successful implementation of the Agroportal, a new extension of the system has been deployed for untangling the public service usage by agribusinesses. More specifically, dialogic e-services for the informative stage of a public service

help businesses in finding out whether they are eligible for a specific public service and if eligible details on applying for a service are given. The efficiency of G2B services is increased and business' participation in them is enabled by resolving law complexity of public services through simple dialogues.

Future work regards the evaluation of the proposed service by agribusinesses so as to receive useful feedback on how to proceed to the application of other dialogic e-government services. Also, much effort will be put on providing similar dialogic services for mobile devices so as to harmonize more public service provision with the agribusinesses' preferences.

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