

Realising an Open Data Marketplace in Greece

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Abstract: *At the advent of the opening data paradigm around the globe, many studies have been published on the great economic growth and transparency that this phenomenon will deliver to businesses, citizens and researchers. As the first step is realising – the publishing of data from public sector which is characterized by the development of many different portals across different sectors and countries serving different purposes and scope – European companies are not aware of the value of open data, or if they are aware of this value, they may not know how to generate it. In general the understanding of the open data community on this topic is still limited. Many open data platforms are currently under development aiming to stimulate the potential advantages of the publication and use of open government data. In particular the development of open data platforms in the form of marketplaces, where open data providers and open data users trade and share data and data services, can stimulate the realisation of these advantages. Gov4All is an initiative by the University of the Aegean and Microsoft Innovation Center in Greece which constitutes a developing marketplace in Greece that offers the space for all open data stakeholders to communicate new advances in the area.*

Keywords: *Open data, marketplace, initiative, platform, elements, innovation*

1. Introduction

Numerous studies have shown that the opening of public data will provide considerable potential and plethora of advantages to citizens, researchers, companies and other stakeholders. These advantages include, but are not limited to, increased transparency (Bertot, Jaeger, & Grimes, 2010; McDermott, 2010), more and better services to citizens (Charalabidis, Ntanos, & Lampathaki, 2011), increased participation and interaction of stakeholders, empowerment of users and providers of open data (Neuroni, Riedl, & Brugger, 2013) and economic growth and value creation (Borzacchiello & Craglia, 2012).

Various platforms have been developed in the last decade in order to stimulate these potential advantages of the publication and use of open government data. Much effort in the open data field is focused on publishing data on the internet by creating open data portals (McDermott, 2010; Meijer & Thaens, 2009), whereas little attention is given to the problem of how can these released data be used to stimulate innovation, and how open data can be published in such a way that they can be used meaningfully. Most governmental data providing organizations merely put these data on a platform, but are less concerned with how these data can be used by businesses.

On the other hand, very little research investigates how exactly open data can result in innovation. Ferro and Osella (2013) explored open data business models which private organizations currently employ. This studies describe various existing infomediary business models that are driven by open data and social media and state that “new business models and practices driven by social media and open data have hardly been investigated”. Although some research has been performed on which business models could stimulate innovation, the understanding of the open data community on this topic is still limited.

Open data platforms which facilitate interaction between open data providers and open data users could play an important role in stimulating the realisation of open data advantages (e.g. Chun, Shulman, Sandoval, & Hovy, 2010; Evans & Campos, 2013; Lee & Kwak, 2012; Maier-Rabler & Huber, 2011). Interaction between open data providers and users can be stimulated by so-called marketplaces. Marketplaces are places where suppliers and customers can meet each other (Henderson & Quandt, 1980) to indicate their intention to buy or sell certain products which eventually match and may be settled (Schmid & Lindemann, 1998). In the case of open data, open data providers and users can use a marketplace in order to interact and collaborate by trading and sharing open data and data services including advice and assistance in an open cooperative environment. As such, a marketplace can encompass various stakeholders and provide many types of data and numerous data services.

Despite the fact that numerous open data platforms have been developed, only few existing open data platforms actively stimulate the interaction between open data providers and open data users in the form of marketplaces. A recent example

is the call for proposals on an open data incubator within the frames of HORIZON2020 (LEIT-ICT-15). The Gov4All¹ initiative from Aegean University and Microsoft Innovation Center in Greece is a new developing marketplace where all open data stakeholders could meet and access open data sources, services and applications developed upon open data, as well as, provide their own enhanced open datasets, services and applications.

This paper aims to analyse the necessary features of such marketplaces, present the Gov4All initiative and its achievements and finally, provide information about the next steps of its development.

2. Gov4All Open Data Marketplace

Gov4All aims to promote open and collaborative governance in Greece, through the development and dissemination of a modern and open platform for the voluntary development and utilization of governance applications from individuals and businesses, with the ultimate aim of improving the quality of citizens' life and development of Greek economy, with resources' saving and without harming the urban and natural environment.

Other objectives of the Gov4All initiative from Aegean University and Microsoft Innovation Center in Greece are:

- ✓ Registration of open government applications developed by citizens and businesses, through equal and open participation of groups, individuals, businesses or organizations.
- ✓ Gathering of available open data and web services (web services) provided by the public sector, aiming to the voluntary development of open, free applications.
- ✓ Promotion of new technologies in open government, especially as regards mobile devices (mobile platforms), open web services and open governmental data.
- ✓ Provision of training in the use of open data and services for applications development.
- ✓ Support the cooperation between citizens, government and businesses in order to promote the above objectives.

According to Zuiderwijk et al. 2013 the elements of future open data marketplaces could be categorised as follows. Table 1 presents the achievements of Gov4All initiative in contrast with the identified elements.

Table 1: Gov4All and Open Data Marketplaces Elements

No.	Element	Gov4All Implementation
1	Bring stakeholders together (match supply and demand)	Fully addressed. Declare your need for new applications and web services, registered users from all identified domains.
2	Provide rich metadata	Fully addressed. Metadata prototype for web services, applications and open data sources registration with basic codelists already included. More semantic assets could be introduced in the next version.
3	Enable data quality assessment	Fully addressed. Commenting and rating capabilities. Advanced rating could be introduced in the next version.
4	Ensure trust, security and critical mass	Partly addressed. The portal has been developed using Microsoft technologies. Web services security: direct link to public sector web services. Open data trust: direct link to public sector sources. Critical mass has not been achieved. Yet links have been created with other open data and open services platforms and communities (e.g. Open Knowledge Foundation in Greece ² , Greek Open Source Community ³ , Greek National Governmental Services Infrastructure ⁴)
5	Have an appropriate revenue model	Fully addressed. A revenue model has already been developed.

¹ <http://gov4all.azurewebsites.net/en/>

² <http://okfn.gr/>

³ <https://ellak.gr/>

⁴ <http://www.ermis.gov.gr/portal/page/portal/ermis/>

6	Provide use cases, training and support	Fully addressed.
7	Provide technical support: Open data processing tools	Not supported yet. Plans for the next versions.
8	Provide a full API for machine-to-machine operation	Not supported yet. Plans for the next versions.
9	Be international	Not supported yet. Plans for the next versions.

Gov4All covers most of the aspects that have been identified as enablers for such an initiative. Figure 1 presents Gov4All basic modules and functionality. Furthermore, Gov4All has been designed in order to meet the following technical characteristics:

- Web and mobile operation: compatibility with all platforms
- Mobile friendliness for all mobiles
- The basic language is Greek / English version is under development
- Social media-like user interface
- Maintenance without further development
- Three user levels: visitors, registered users, moderators
- Rating and comments capabilities for applications, data and web services from registered users and visitors
- Connection with Facebook, Twitter and LinkedIn social media platforms (users can use their own accounts for publishing their comments)

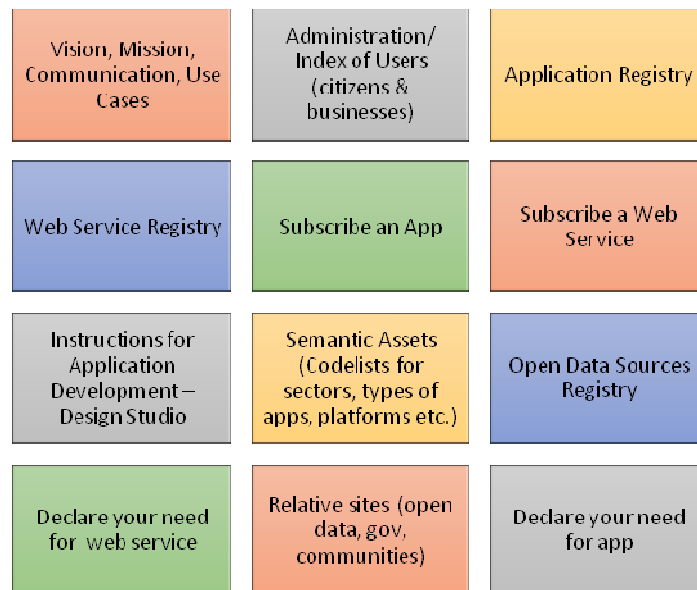


Figure 1: Gov4All Basic Modules

3. Gov4All Governance Framework

Gov4All has deployed a complete governance framework which shall show the clear benefits of ICT-driven public sector innovation and the take-up of the open and participative governance model (Osimo et al. 2007), where both governments and third parties can collaborate and share responsibilities in designing, producing and delivering personalized services of public value according to the accepted principles of subsidiarity (Botterman et al. 2009). Figure 2 presents the governance framework that runs Gov4All in terms of involved stakeholders, provided assets and user actions.

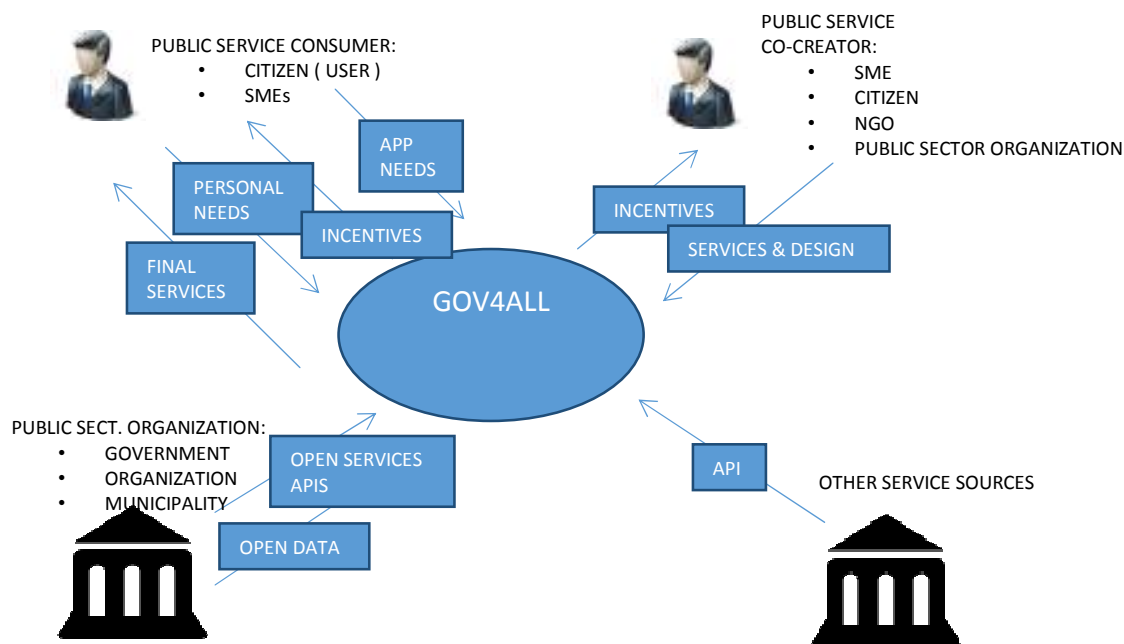


Figure 2: Gov4All Governance Framework

The Gov4All governance framework follows the open innovation principles and is capable of guiding public administrators in adopting the ICT-driven public sector innovation approach to collaborative development of public services, as it provides the following:

- An analytical guide for understanding on how governments can involve citizens, businesses, CSOs in public service delivery, including planning and change management, success factors, and risks in adopting public service co-production.
- Identification of categories of promising public services and the potential benefits of their co-production.
- A cost-and-benefit analysis for the adoption of public service co-production by the public sector.
- Best practice co-production engagement strategies and incentives for both public administrators and third parties.
- Specifications for an integrated ICT infrastructure capable of supporting open innovation and co-production of personalised public services in an effective and efficient way.
- A sustainable business model that offers financial incentives to citizens, businesses-SMEs, CSOs, and, public administrations for innovation generation through collaborative personalisation of public services

The first priority for Gov4All is to establish the necessary substantiation for the case of collaborative production and delivery of public services, targeting at mobilizing the public sector, mainly, but also the third parties to be partnered, i.e., citizens, businesses, and CSOs.

4. Milestones and Next Steps in Development

As an ongoing marketplace initiative, Gov4All will continue to be developed and engage stakeholders among the open data community providing incentives and a space for services and applications co-production, as well as, new business models and guidance.

Gov4All has been launched meeting the following milestones:

- Name, URL, Facebook, Twitter, LinkedIn and Google+ reservation
- Basic functionality for all modules
- Basic codelists for metadata fields descriptions
- 50 registered apps following the developed metadata prototype
- 15 registered web services following the developed metadata prototype
- 22 registered open data sources following the developed metadata prototype
- 50 registered users

- Cooperation with other initiatives, developers, research centers, companies, public sector bodies, other communities etc.

The next big step of the initiative will be the development of the designing studio which will offer to its stakeholders the opportunity to:

- design and create their own applications
- to create mashup applications, combining already existing applications and web services

Thus, making citizens' every day transactions with the government less time consuming and more effective.

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