

Analysis of the Value of New Generation of eGovernment Services and how Can the Public Sector Become an Agent of Innovation through ICT

Executive Summary

A study prepared for the European Commission
DG Communications Networks, Content & Technology by:



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Internal identification

Contract number: 30-CE-0702542/00-78
SMART number: 2014/0066

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ISBN: 978-92-79-63138-2
DOI: 10.2759/836234

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Executive Summary

The new EU eGovernment Action Plan 2016-2020 - Accelerating the digital transformation of government – is guided by the following vision:

"By 2020, public administrations and public institutions in the European Union should be open, efficient and inclusive, providing borderless, personalised, user-friendly, end-to-end digital public services to all citizens and businesses in the EU. Innovative approaches are used to design and deliver better services in line with the needs and demands of citizens and businesses. Public administrations use the opportunities offered by the new digital environment to facilitate their interactions with stakeholders and with each other."

To fulfill this vision, the study provides European policy makers with a better understanding of what OGS are, what is their value for society, and how the public sector should innovate to foster their use and maximize their impact on society. To this aim, the study produced the following results: 1) a definition and a taxonomy of OGS; 2) an assessment of the value of OGS, based on a costs-benefits analysis aggregated and extrapolated across European countries, completed with an assessment of the non-monetized benefits; 3) the assessment of how public sector innovation happens and how the implementation of OGS can be accelerated by mean of appropriate policy measures.

Definition and Taxonomy of OGS

Open eGovernment Services (OGS) are **open, collaborative and digital based services** characterised by a **deliberate, declared and purposeful effort to increase openness and collaboration** through technology in order to deliver **increased public value**. More precisely the main features of OGS are:

- **Openness:** effort to publish elements and components of the service (data, service components, decision support), with respect to traditional eGovernment. This includes the production of reusable software objects that can be re-composed as in the concept of Service-Oriented Architecture.
- **Collaboration:** recognition that government should not only aim at fulfilling societal and economic needs by direct service provision, but should enable and deliberately pursue the collaboration of third parties. This includes services designed and provided by private players without the awareness of government but that help solving issues related to public services.
- **Technology:** OGS are fundamentally reliant on digital technology to deliver the services. Digital technology is used to provide disruptive innovation in the way services are delivered and is by definition collaborative, through open data, open web tools or collaborative platforms.

All these three aspects must be present for a service to be classified as OGS. As such are **excluded from OGS:** traditional (non-open and/or non-collaborative) eGovernment initiatives, traditional outsourcing of public services to private providers, live participatory initiatives (e.g. town hall meetings), pure citizens-to-citizens collaboration not directly related to public services, and services provided by the private sector that do not build on open government data and that are not related to public services. On the other hand, **OGS includes** initiatives for transparency and open data regarding both public service provision and involvement in policy decision, services where government plays some role, as leader or enabler, services where non-government parties play a different role: from lead, to contributor, to simple input in the design, with or without formal agreements about the role (e.g. contracts). Finally, there are **quasi OGS** included in the definition, despite not being designed to increase the collaboration between government and third parties. Examples are services delivered by citizens or private sector without any forms of government initiative, and that do not even rely on open government data, but that directly concern public services and which induce a re-action by government, and government initiatives exclusively aiming at increasing collaboration within

government, such as social networks of civil servants and inter-agency knowledge sharing platforms.

Starting from the definition of OGS, the study team elaborated a taxonomy of scopes and type of OGS building on a systematic literature review (ensuring that the most up to date available evidence and definitions was taken into account), a dynamic online engagement of relevant stakeholders, and a thorough mapping of relevant OGS. A brief outline of the taxonomy is presented in Table 1.

Table 1 – Taxonomy of OGS

TAXONOMY OF SCOPES	
Category	Description
Main elements of the taxonomy	Services of general interest, Public sector (e.g. security, public education, health care), and Government
Domains of the taxonomy	General public services, Defence, Public order and safety, Economic affairs, Environmental protection, Housing and community amenities, Health, Recreation, culture and religion, Education, Social protection.
Branch/power of government	Executive, Legislative and judiciary
Levels of government	Supra-national, National, Regional, Local
Users benefiting	Other governments, Citizens, Businesses.
Object of the taxonomy	Public services, public policies
TAXONOMY OF TYPES	
Category	Description
Technology adopted by the service	Open data, Composable services, Other technologies supporting human collaboration, such (e.g. collaborative tools and social media)
Types of collaborators in service provision	Citizens, Business, Other government agencies and civil servants.
Role of government	Lead, Enabler, No role.
Type of Resources used to provide the service	IT skills, Specific thematic knowledge, Experience as users of public services, Pervasive geographic coverage, Trust and networks, Many eyes and many hands (support of the population at large).
Collaboration modality	Virtual labour market, Tournament based collaboration, Open collaboration.
Phase in the policy cycle in which collaboration is provided	Design, Implementation, Monitoring, Evaluation.

Source: consortium elaboration

The taxonomy was then used in the study to identify the long list of cases from which select the relevant initiatives for the analysis of the value of OGS. The taxonomy allowed us also to define three broad clusters of services: **Human services** refer to services to citizens (and in some cases companies) that provide concrete support, such as health, education, and culture. **Administrative services** include those services that are compulsory, necessary to the functioning of government even though they do not provide visible service to users. **Participatory services/policymaking** refer to the open, participatory decision-making services.

Value of OGS

For what concerns the assessment of the value of Open Government Services from a quantitative and qualitative perspective, the study team has carried out a Cost-Benefit analysis and an analysis of non-monetized benefits of a set of OGS initiatives. The final list of selected cases, with a related short description, is depicted in Table 2.

Table 2 – List of Selected Cases

Case	Typology/Short Description
FixMyStreet UK	Street Maintenance. The service works by entering a postcode (or by enabling the website to locate the user automatically) along with the description of the street problem to be fixed. The issues reported by citizens are then emailed directly to the relevant Councils. Problems reported span from potholes or broken streetlights to street cleaning.
FixMyStreet Belgium	
Interoperable Data Gathering for e-Social Security	Electronic Social Security. Electronic data gathering on income and property aimed at reducing the efforts for applicants but also significantly simplifying the decision processes by enabling fast, fair and transparent decisions regarding social support. The adoption of the system by the government also aimed at the collection and storing of data on income and property that otherwise would have been dispersed across different sources (50+).
Tartu Participatory Budgeting	Participatory Budgeting. Tartu, the second largest city of Estonia, is the first city in Estonia that opened up its budget-designing process in 2013. Citizens of Tartu can decide how 1% of the annual investment budget is spent.
IoPartecipo	Participatory Decision Making. Online platform allowing citizens to take part to the decision making process related to local issues. The service has been implemented by the Italian Region Emilia Romagna in 2013 and has already received 54.105 visits since its launch.
PatientOpinion	Feedback Management. The platform works by enabling patients to provide details about their experiences in hospitals and health care institutions in the area in which they live. The platform will then email the story to the relevant health services, which in turn can provide an answer directly via the Patient Opinion platform
Di@vgeia	Publication of Acts. The Di@vgeia programme was launched in 2010 by the Ministry of Administrative Reform and e-Government with the aim of pushing all government institutions to upload their acts and decisions on the internet in order to make them fully available to the public.
NemID	Electronic Signature. The login service aims to simplify bureaucratic processes and administrative procedures for citizens and civil society. The system enables Danish citizens to access a wide range of public administration services and online banking and tax services by entering an individual user name, password and code.
Kublai	Support to entrepreneurship. Open and collaborative environment consisting in a platform where creative individuals can present project ideas that can be discussed, refined, and developed into viable projects. In this way individuals that lack capability to gain access to funding can turn ideas into real world social innovation projects
Parlement et Citoyen	Participatory Decision Making. Platform where Members of the French Parliament publish their proposals for feedback and enrichment by the people before they are discussed in Parliament. The platform, reused for dedicated consultation, has managed to reach out beyond the "usual suspects", with half of participants reporting "some" or "no" interest in politics.

Source: consortium elaboration

How do these cases fit into the definition of OGS? This is explained in Table 3, where the cases are characterized according to their openness, collaboration and technology dimension.

Table 3 – Characterization of the Cases as OGS

Case	Openness	Collaboration	Technology
FixMyStreet UK	Citizens can access online reports and datasets	Citizens report problems and street faults giving the possibility for the public administration to actively take action	Platform and app enable citizens to report problems and local authorities to display and eventually address them
FixMyStreet Belgium			
Interoperable Data Gathering for e-Social Security	Different PA institutions can use the service building blocks	Stakeholders co-designed the service and suggested valuable inputs for its implementation	Interoperable building blocks enabling to manage different types of data enquiries
Tartu	Public budgeting is	Citizens take part to the decision-	Possibility to cast votes using

Participatory Budgeting	displayed to the public.	making process	Estonian ID cards and the digital-signature infrastructure
IoPartecipo	Data are uploaded and made available to everyone for downloading, sharing and commenting	Co-design and co-production activities involving researchers, experts and end-users	Online platform, resulting from the re-use of existing software components
PatientOpinion	Possibility for patients and citizens to freely consult feedback and reports	Reporting activities which enable patients to provide feedback to health institutions	Online platform enabling patients to be directly in contact with health institutions
Di@vgeia	Readily available information on the portal that can be accessed by everybody	Citizens can monitor the publications of documents as well as report potential maladministration issues	Online platform where the information is published
NemID	Access to PA services and online banking via the unified log-in system	System developed by a private supplier in cooperation with both the financial and the public sector	ICT platform to access online services of the public administrations and banks
Kublai	Information (e.g. feedback and training material) is provided openly and freely	Peer to peer support provided by the users of the platform to other users presenting a project by the mean of comments	Online platform allowing asynchronous communication, tools such as Second Life allowing synchronous communication
Parlement et Citoyen	Law proposals are readily available on the portal	Platform enables citizens to revise and provide input in law proposals	Online platform where the input is provided

Source: consortium elaboration

The results of the analysis on the monetary and non-monetary advantages of OGS can be used for identifying similarities and patterns across the type of services (Table 4).

Table 4 - Value of Open eGovernment Services

Area	Service	TECHNOLOGY COSTS	MONETIZED BENEFITS	NON-MONETIZED BENEFITS	SCALABILITY	REPLICABILITY	CONCLUSION
HUMAN SERVICES	Support to entrepreneurship	Moderate	Fairly positive	Very positive	Medium	High	Promising
	Streets Maintenance						
	Feedback Management						
ADMINISTRATIVE SERVICES	Publication of Acts	High	Very positive	Fairly positive	High	Medium	Mature
	Electronic Signature						
	Electronic Social Security						
PARTICIPATORY POLICY SERVICES	Participatory budgeting	Moderate	Negative	Very positive	Medium	Medium	Potential not fully expressed
	Participatory Decision-making						

Source: consortium elaboration

As depicted in Table 4 the cases can be clustered across a set of categories of services highlighting some patterns of use: **Human services**, **Administrative services**, and **Participatory services/policymaking**.

Concerning **human services**, the costs of the OGS from a technological standpoint, are typically moderate as the service can be built incrementally by one developer using open source modules. The monetized benefits are fairly positive, as the input provided by users (the feedback over the service, the suggestion about improving the business plan)

directly improved the service delivered. However, the absolute benefits are limited since these type of services do not replace existing public services but simply help improving them. Non-monetized benefits are very important, in terms of capacity to reach out to citizens, increase their satisfaction and trust. Scalability for this type of services is low due to their limited application. It is hard to imagine high levels of collaboration between citizens such as those shown by Kublai or Patient Opinion when dealing with more trivial issues. On the contrary, replicability is quite high (both FixMyStreet and Patient Opinion have already been replicated elsewhere).

In regards to **administrative services**, technology costs are high, especially in the short term, because they involve a reorganisation across all government. Monetary benefits are also high, mainly in terms of costs savings. The non-monetized benefits are more limited, and generally refer to greater transparency and trust in government. Finally, the scalability is very high, as these services do not require extensive citizens input, in most cases are fully automated, and therefore can be more easily scaled. These types of services carry also a good replication potential, however the lack of a political and legal framework might affect their adoption.

Participatory decision-making services account for typically moderate technological costs, as the tools do not require an overhaul of the existing core government technology. The monetized benefits appear very limited though, as the input received by citizens is seldom original and highly innovative: citizens input appear far more useful and high quality when it refers to concrete needs and issues, as in the human services cases. On the other hand especially relevant are non-monetized benefits in relation to building trust in government decisions. Finally, both scalability and replicability are limited, as citizens' attention cannot be devoted to follow all government decisions, but only the most important ones, typically very few. As it was the case for Administrative Services, the presence of a solid political and legal framework plays a central role for the replication of these types of services. Increasing the scope of application of the services and stimulating high quality input will in the future increase the impact of this class of services.

Scenarios and Policy Measures

The scenarios have been elaborated building on the case studies as well as on activities carried out in the study. More in particular the case studies carried out provided clear inspiring examples, the classification of which, along the class of service delivered, was the basis for the elaboration of the scenarios. Finally the scenarios workshop presented the study team with the opportunity to enrich the scenarios hypothesized and to provide other examples of drivers and bottlenecks, as well as to elaborate a preliminary set of policy recommendations, further refined by the study team. Each of the four scenarios elaborated describes a different outcome for OGS (Table 5).

Table 5 – Future Scenarios of OGS

SCENARIO	DESCRIPTION	IMPACT	CASES
DEVELOPING OPEN DECISIONS	Policy decisions are taken with the fundamental input of citizens in online discussions	Citizens trust government more, are willing to pay taxes and less likely to vote for populists Public policies are more effective as stakeholders feel ownership and collaborate	Tartu Participatory Budgeting - Parlement et Citoyens IoPartecipo
FEDERATING COLLABORATIVE HUMAN SERVICES	Public services of genuine added value are systematically designed and implemented with the involvement of citizens and business	Public spending on similar level but quality of services is higher and also citizens satisfaction Less mistakes and waste in delivering services, higher trust in service delivery	Kublai, PatientOpinion. FixMyStreet

FEDERATING ADMINISTRATIVE SERVICES	Services are integrated across government, and provided through composable modules that are re-used and integrated automatically. Any services provide API access for integration	Spending is significantly reduced because of savings in service delivery and reduced rate of mistakes Government spend less in developing customised software, but reuse software built by others Companies and business save time and money thanks to automated, proactive services Market of business built online services based on and integrated with government-built software	Di@vgeia NemID Interoperable data gathering for e-social security
END OF OPEN GOVERNMENT	Transparency, collaboration and participation did not deliver on their promises, leading to a return to traditional eGovernment	Public policies are designed top-down, in a technocratic way, based on the available scientific evidence Human services are delivered by expert civil servants or outsourced to the private sector Administrative services are delivered by large, centralised organizational units, supported by software built on demand by large IT corporations Public Sector Innovation disappears from the policy agenda	

Source: consortium elaboration

Building on the scenarios, Table 6 provides an overview of the recommended policy measures to boost Open eGovernment Services, structured by the general policy objectives and type of stakeholder the recommendation applies to.

Table 6 – Overview of the of Policy Recommendations for OGS

Policy Objectives	European Union	Member States	Citizens/business
OPENNESS AS A GRADUAL LEARNING PROCES	Guidance modules for OGS audit Open spaces for discussion MOOC on OGS Global knowledge exchanges Internal OGS roadmap	Identify priority services for OGS Carry out OGS audit Prioritize low-input OGS Ensure learning and fine-tuning of services after launch Early involvement of users	Develop OGS without replication to existing ones and reusing existing solutions. Provide feedback on existing OGS
ADJUST THE INSTITUTIONAL FRAMEWORK	EU statement of principles Support MS deployment Provide political recognition internally Foster adoption of DSI building blocks	Adopt action plan Ensure "collaborative by design" principle in government services Provide guidelines to civil servants	Publicly support government OGS leaders and private OGS developers
DESIGN CLEAR INCENTIVES	Provide best practice guidance on incentives for civil servants Adapt EU staff regulation Create centre of competences Recognize the effort of OGS in budget distribution	Adapt staff regulation Create centre of competence Recognize the effort of OGS in budget distribution Integrate procurement with innovation activities. Ensure feedback to citizens	Ensure uptake of OGS Proactively launch OGS in collaboration with government.
DISSEMINATE PROACTIVELY	EU dissemination campaign Web based repository Live high profile events	Public, high reach events for citizens Restricted events for civil servants Monitor dissemination	Take part in web dissemination activities and live events
IMPROVE THE EVIDENCE BASE	Clarify limitation of public sector innovation Set up a repository of best practices Elaborate easy to use evaluation and benchmarking framework	Systematically deploy evaluation throughout OGS	Business to report publicly on OGS run by them. Citizens to participate in evaluation activities.

Source: consortium elaboration

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Luxembourg, Publications Office of the European Union

2016

ISBN: 978-92-79-63138-2
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