

POLICY GADGETS: PAVING THE WAY FOR NEXT-GENERATION POLICY MAKING

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Abstract.

The article proposes the concept of Policy Gadget (Padget) as an innovative tool for leveraging the group knowledge produced over Social Media platforms inside policy making processes. The concept has been developed within an international research project named PADGETS financed in the context of the “ICT for Governance and Policy Modelling” call of the FP7. In addition, the article highlights the value proposition of Padgets within the policy cycle as well as their novelty with respect to existing practices in the use of ICT for participatory purposes.

Key Words: ICT for Governance, eParticipation, Policy Intelligence, Policy Modeling.

1. Introduction

At the dawn of computerization, the use of Information and Communication Technologies (ICTs) in Government focused mainly on supporting its complex internal functions and processes; however, subsequently the advent of the Internet gave rise to the development of “extrovert” Government Information Systems as well [1]. The emerging of such systems, which have showed noteworthy improvements in recent years, paved the way for a new model of democracy, which is termed “participatory democracy” [2], combining decision making by citizens’ elected representatives with citizens’ participation, with the latter not replacing but supporting and enhancing the former.

However, despite rosy expectations and fervent impulses coming from the scientific community, the way Government’s consultation currently works never satiate the appetite of policy makers, owing to the presence of notable difficulties which hamper citizens’ inputs from having a clear impact. Examples in this vein are provided by Johnston [3], Ferro & Molinari [4]:

- Typically, a formal consultation gives citizens a brief opportunity to offer comments in response to a limited set of questions.

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- When the consultation period ends, policy makers are hit by a wave of textual comments, without obtaining a clear picture of the surfacing *vox populi*.
- The designated “official” spaces are largely unknown to the general public due to the high costs of promotion and the slow pace of dissemination.
- The tools adopted are frequently not appropriate or usable only by an affluent and acculturate minority.

Consequently, afore-mentioned drawbacks lead to low levels of uptake. In the past ten years, a plethora of experiments aimed at creating a more open, transparent and inclusive Government has been documented in Europe and abroad, which have used different technologies and various methodologies to purport to highly heterogeneous policy goals. In spite of the lack of systematic evaluation, a common trait to those experiments is that they have involved a very small minority of citizens with respect to population as a whole [5].

Despite unsatisfactory results obtained by participatory initiatives launched hitherto, one ray of hope comes from tendencies towards the “Government 2.0”, emerging concept which depicts a situation where canonical governmental boundaries are blurred, leaving room for opportunity to harness “prosumption” [6], i.e., a new model of innovation where formerly passive consumers participate in an active and ongoing way. In this type of “extended Government”, new modes of collaboration and co-creation surface and, therefore, pluralistic and networked forms of Government become the dominant organizational model for service delivery and policy making.

In this direction, the paper describes the innovative framework of institutional engagement proposed by PADGETS project [7], which has been financed in the context of the “ICT for Governance and Policy Modelling” call of the 7th European framework program of research. The conceptualization and the implementation of such participative system represent a first attempt to provide policy makers with a set of tools able to foster a modernization of the way governments interact and collaborate with citizens, implying policy shifts in the empowerment of citizens and harnessing the opportunities offered by new technologies.

Including these introductory comments, the paper is structured in five sections. Section two provides a theoretical background to the work presented. Section three illustrates the project rationale. Section four discusses the concept of Padget by highlighting its value proposition as well as its novelty with respect to existing practices. Finally, section five provides some conclusive remarks on the benefits drawn from putting into action the Padget concept as well as some open issues representing possible stimuli for future research.

2. Theoretical Background about E-Participation

In line with OECD [8] and European Commission [9], the participative dimension plays a vital role in the perspective of good Governance, since the participation demonstrates considerable potential to change the broader interactions between citizens and Government, improving the overall quality of engagement and decision making whilst widening the involvement of all citizens [10].

According to Rittel & Webber [11], the design of public policy in most domains is a “wicked” problem, in which the search for scientific bases is bound to fail, because of the nature of these problems: a situation characterized by many stakeholders with dissimilar views of the problem, values, concerns and interests is complicated by the paucity of opportunities to learn

by trial-and-error. Owing to such peculiarities of public policy making process, several circles of deliberation occur: stakeholders interact, raise issues concerning the problem under discussion, propose solutions and argue about advantages and disadvantages of them, finally resulting in a better understanding of the problem [12].

In order to reap benefits stemming from this approach, new mechanisms are required to enable a public decision process more open, transparent and participative in which citizens' contribution is a paramount ingredient characterized by a significant impact. Taking into account dimensions such as "to what level" or "how far" citizens are engaged, three stages could be distinguished in conformity with Macintosh's framework [13]:

1. E-enabling, which is about supporting those who would not typically enter the Internet (i.e., accessibility) and taking advantage of the large amount of information available (i.e., understandability).
2. E-engaging, that is geared towards consulting a wider audience to enable deeper contributions and support deliberative debate on policy issues through top-down consultation.
3. E-empowering, which is aimed to support active participation and to facilitate the percolation of bottom-up ideas towards the political agenda.

Along the depicted trajectory, the rise of Social Computing has recently attracted significant interest: Web 2.0 *et similia*, in fact, could represent a cornerstone in the field of public sector innovation, smoothing the way to a more reactive, informed, open, transparent and collaborative Government. In particular, the increased capabilities of Internet users to create contents, coupled with the birth of Social Networks, which have encountered dramatic success in terms of take-up, have driven the development of more and more virtual spaces for the expression of political views, problems and needs, which may ideally symbolize modern *agorae* [14].

Since Web 2.0 applications are already being used in Government not only for soft issues (e.g., public relations, public service announcements) but also for core internal tasks (e.g., intelligence services, reviewing patents, support decision making) [14], it is desirable a convergence towards a systematic exploitation of the emerging Social Media by governmental organizations in the processes of public policies formulation, aiming to enhance a frictionless e-Participation: by doing this, Governments make a step towards citizens rather than expecting the citizenry to move their content production activity onto the "official" spaces created for e-Participation [12].

3. Padgets Rationale

A soaring complexity noticed at a social, political and economic level demands more sophisticated policy development processes. In fact, Governments no longer have in-house sufficient scope, resources, information or competencies to respond effectively to the policy needs of an interconnected, fast-evolving and unpredictable global environment: policy makers must now seek out new partners and participants to help identify problems and create innovative solutions [16].

In the governmental opening up, social and technological drivers generated by Web 2.0 applications and Social Media platforms have brought with them new organizational forms, through the capacity of the Internet and its users to "organize without organizations" [17].

Resulting quasi-organizations, from Facebook groups and multi-authored blogs to discussion sites and peer-produced goods (like Wikipedia), are all extremely difficult to categorize according to conventional organizational theory. As a result, even though a widespread “deformalization” of organizations could generate a governmental response along Digital Era Governance lines, Government officials and policy makers are often unsettled or confused by the need to respond to these “informal” organizational developments [18].

PADGETS project as a whole constitutes a valid response to the vagueness that still surrounds such topics, providing governmental actors with ICT tools with the capability to analyze unstructured (and sometimes inadvertent) society’s inputs and, from them, forecast the possible impact of policies in light of the emerging *vox populi*.

The prominent idea underpinning such research endeavor is to bring together Social Computing with System Dynamics simulation in order to help Governments to render policy making processes more participative and, at the same time, to provide systematic support to decision making processes. To say it in a nutshell, the platform developed within the project will allow Public Administrations to set up a cost effective participatory processes by moving the political discussion from official websites to Social Networks where citizens are already debating, taking advantage of enhanced policy intelligence services based on fresh and relevant data.

4. From Concept Definition to Value Creation

4.1 The Underlying Concept

Similarly to the approach of gadget applications in Web 2.0 – i.e., using data and services from heterogeneous sources to create and deploy quickly applications that provide value added services – the project introduces the concept of “Policy Gadget” (or, coining a *portmanteau*, “Padget”) to represent a resource (application or content) created by a policy maker which is typically instantiated within one or more Social Media platforms. By enabling a thorough interaction with end users in popular locations (such as Social Networks, blogs, etc.), a Padget combines the policy message with underlying group knowledge having its *locus* in the Social Media realm acting as a pivotal element in conveying society’s inputs to policy makers.

Keeping a helicopter view on the project blueprint, a Padget could be likened to a “complex molecule” made up of four main components (Figure 1):

- A message, that regards a policy in any of its stages and forms, i.e., a draft legal document under formulation, a law in its final stage, an EU directive under implementation, draft policy guideline, a political article or even a campaign video. The policy message is put together adopting a modular structure (using different content types) in order to account for the heterogeneity present among end users in terms of time availability, interest in details and preference for content consumption. Typically the policy message could be structured in three parts: a short and “catchy” policy statement, a brief policy description and a set of more extensive documentation that may be attached to the message in different guises (e.g., text, multimedia, external links).
- A set of interaction services, that allows users to have recourse to the Policy Gadget (find it, access its content, share it, comment the policy message, etc.). These interfaces may be

provided by either the underlying Social Media platforms in which the Padget campaign⁶ has been launched or by the Padget itself when it takes the form of a micro application.

- The social context, that is the framework describing social activities and contents related with the Policy Gadget in each individual Social Media platform where the Policy Gadget is present. As a result, this component allows the Policy Gadget to be a “context-aware” volume of relevant user activities and user generated contents.
- The decision services, which are offered by two complementary modules. Whilst the “PADGETS analytics” building block processes textual data gathered through Padget campaigns to extract opinions expressed about the policy message, the “PADGETS simulation model” analyzes and projects into the near future the diffusion process of the policy message in terms of awareness (i.e., passive reception of the policy message in Social Media), interest (i.e., spreading or commenting the Padget announcement in Social Media) and acceptance (i.e., expression of positive and negative judgments about the policy idea under examination).

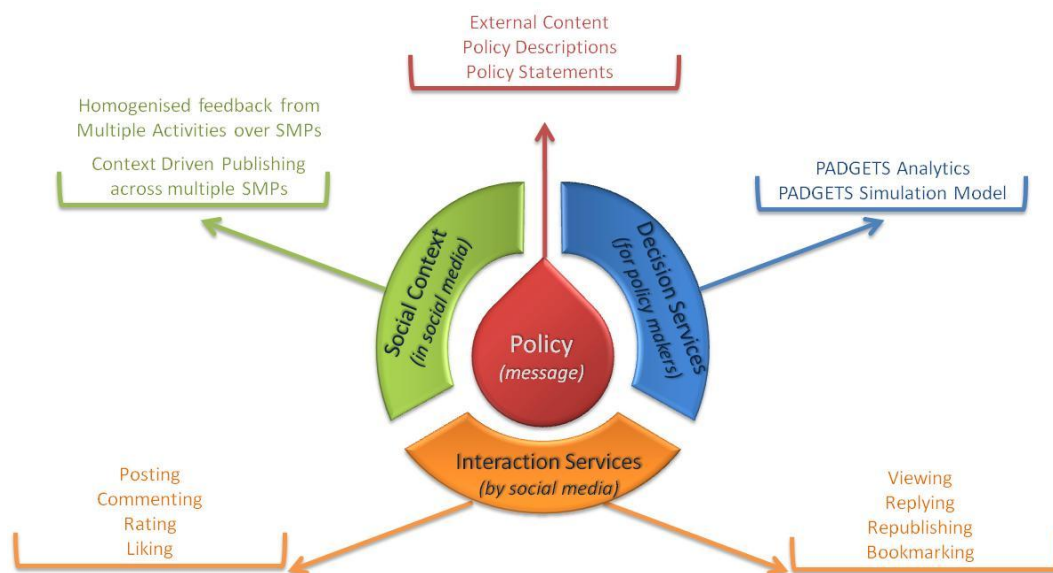


Figure 1 - Padget main components

4.2 Value Proposition in the Policy Cycle

The PADGETS platform represents an ideal bridge across Governments’ institutional boundaries allowing to establish a bidirectional communication flow between policy makers and society. The value generated by such tool unfolds along a number of dimensions, is perspective dependent and may vary among the different phases of the policy making cycle. Nevertheless, in its essence it may be conceived as a reduction in the distance occurring between policy making and society’s needs, both in terms of time and tools required. In other words, the use of Policy Gadgets allows to better inform the policy decision process by providing a clear and dynamic vision of the disparate stakeholders’ opinions and priorities. By giving policy makers a privileged “interface” for “hearing society’s voice” directly where the

⁶ In the project jargon, a Padget campaign entails a set of activities covering creation, distribution, interaction, monitoring and termination of one or more Padgets oriented towards a specific goal and related to the same theme.

crowd chooses to express its opinion, a Padget enables an innovative way to gather, evaluate and decide upon society's input.

Considering the ability of PADGETS platform to act as an "information hub" devoted to interconnect heterogeneous groups of actors⁷, the value proposition may be summarized in a few words with the catchphrase "multi-sided, multi-benefit". In other words, the action of the Padget platform generates indirect positive externalities for the different classes of actors engaged in the process (thus multi-sided) as well as different types of benefits for each actor class: convenient and frictionless participation accompanied by more socially-rooted policies for stakeholders; fresh, useful and low cost inputs for policy makers (thus multi-benefit).

Thanks to the pronounced versatility shown by the platform, a Padget campaigns may be launched during one or more phases of the policy making cycle⁸: agenda setting, policy analysis, policy formulation, policy implementation, and policy monitoring and evaluation. The purpose, function and, as a consequence, value proposition of each Padget campaign may vary according to the stage of the policy cycle in which the campaign is launched, as pointed out by Table 1.

Stage in policy making cycle	Padget campaign value proposition
Agenda setting	Elicitation of needs and priorities
Analysis	Opinions gathering
Formulation	Acceptance estimation
Implementation	Assessment of awareness and interest
Evaluation	Evaluation of impact perception

Table 1 - Padget value propositions in the policy cycle

4.3 Progress Beyond Existing Practices

The main novelties introduced by PADGETS platform may be summarized as follows.

1. Relaxation of current constraints in terms of size, frequency and quality of participation. All the different stakeholders are free to participate to any policy process they are interested in, at the time they prefer, with the effort in participation they are willing to spend, and above all using their tools with which they are already accustomed to. From the opposite perspective, policy makers can continuously access reports pertaining to stakeholders' opinion, being allowed to quickly modify and adapt the policy issues under discussion.

⁷ The plethora of stakeholders potentially involved in Padget campaigns could be categorized taking into account their belonging to three main classes of macroeconomic actors: citizens, organizational actors who belong to social arrangements which pursue collective goals and have a boundary separating them from their environment (e.g., corporations, charities, non-profit groups, cooperatives, political parties, trade unions), civil servants (i.e., members of governmental institutions operating at different administrative levels).

⁸ Afore-mentioned phases of the policy making cycle are defined by OECD in [19].

2. Integrated management of multiple Social Media channels. The presence of a Web dashboard dedicated to the policy maker decreases the complexity and heterogeneity that comes naturally while managing different Social Media platforms⁹, each of which exhibits peculiarities in terms of aims, interfaces, functionalities, target audience, content types and degree of content sharing.
3. Creation of an “open” decision support system. Opening up the decision support process means integrate it with activities carried out over Social Media platforms. This allows to establish a direct link between the decision process and the external world as well as to reason on fresh and relevant information.
4. Better exploitation of data stemming from interaction with the public on Social Media. In this respect, the decision support component provides a number of promising functionalities that generate precious knowledge to be used to inform the decision making process. In particular, this component allows to generate snapshots on the levels of awareness, interest and acceptance of a given policy, highlight the presence of some of the possible biases present in such estimations (age, gender, etc.), create possible scenarios of how such levels of awareness, interest and acceptance may vary over time (e.g., in next 12 months) and, finally, single out relevant opinions emerging from the interaction of the end users with the policy message.

5. Conclusions and Open Issues

The article proposes the concept of Policy Gadget (Padget) as an innovative tool for leveraging the group knowledge produced over Social Media platforms within policy making processes. Although still in its infancy, such instruments represent a promising stepping stone on which to stand for the creation of a new generation of policy making characterized by faster and more frequent interaction between policy makers and society. As a matter of fact Policy Gadgets may promote a cultural shift within Government agencies paving the way to an “extended Government” model, in which a change occurs in the role of users, who would participate more proactively in the policy lifecycle (and not only). The *ensemble* of users’ insightful contributions and policy intelligence capabilities resident in the back-end allows public decision makers to anticipate and detect trends in public opinion, yielding augmented responsiveness, representativeness and efficiency to the public policy definition. Moreover, an intense use of Social Media coupled with further in-depth studies of network topologies may also contribute to no longer consider individuals as isolated units of analysis but to leverage their social connections and the context in which they are immersed as a potentially useful policy tool. To exemplify, if a policy maker is interested in promoting a virtuous behavior (e.g., waste recycling), by targeting more connected individuals s/he is likely to obtain better and faster results than by implementing a generic policy not taking into account the role individuals play in their social network.

Finally, a number of open issues are worth mentioning as they may represent useful food for thought for possible future research. The implementation of a meaningful cross-platform tracing still poses some challenges having to do with identity management. Furthermore, an arduous task consists in the creation and testing of an appropriate language and style of communication that Government agencies have to adopt in the interaction with society.

⁹ Major Social Media platforms covered by the scope of work are: Facebook, LinkedIn, Twitter, Blogger, Digg, Scribd, YouTube, Picasa, Flickr.

Lastly, the integration of society's voice into traditional policy making processes still presents some obstacles having to do with striking the right balance between independent and informed decision making and coherence with society's will.

References

- [1] Euripidis Loukis, Rob Peters, Yannis Charalabidis, Spyros Passas, Tasos Tsitsanis, Using e-Maps and Semantic Annotation for Improving Citizens' and Administrations' Interaction, in: Proceedings of the European and Mediterranean Conference on Information Systems, 2009.
- [2] Carole Pateman, Participation and Democratic Theory, University Press, Cambridge, 1970.
- [3] Paul Johnston, Transforming Government's Policy-Making Processes, in: eJournal of eDemocracy and Open Government, 2/2/2010, 162-169.
- [4] Enrico Ferro, Francesco Molinari, Making Sense of Gov 2.0 Strategies: "No Citizens, No Party", in: eJournal of eDemocracy and Open Government, 2/1/2010, 56-68.
- [5] Enrico Ferro, Francesco Molinari, Framing Web 2.0 in the Process of Public Sector Innovation: Going Down the Participation Ladder, in: European Journal of ePractice, 9/2010, 20-34.
- [6] Don Tapscott, Anthony D. Williams, Wikinomics: How mass collaboration changes everything, Portfolio Books, New York, 2006.
- [7] PADGETS Project, 2010, <http://www.padgets.eu>.
- [8] OECD, Citizens as Partners: Information, Consultation and Public Participation in Policy-Making, OECD Publishing, Paris, 2001.
- [9] European Commission, European Governance: a White Paper, Commission of the European Communities, Brussels, 2001.
- [10] European Commission, European eParticipation Summary Report, Study and Supply of Services on the Development of eParticipation in the EU, Brussels, 2009.
- [11] Horst W. J. Rittel, Melvin M. Webber, Dilemmas in a General Theory of Planning, in: Policy Sciences, 4/1973, 155-169.
- [12] Yannis Charalabidis, George Gionis, Enrico Ferro, Euripidis Loukis, Towards a Systematic Exploitation of Web 2.0 and Simulation Modeling Tools in Public Policy Process, in: Efthimios Tambouris, Ann Macintosh, Oliver Glassey (eds.), ePart 2010, LNCS, Springer, 6229/2010, 1-12.
- [13] Ann Macintosh, Characterizing E-Participation in Policy-Making, in: Proceedings of the 37th Hawaii International Conference on System Sciences, IEEE, 5/5/2004.
- [14] Riccardo Boero, Enrico Ferro, Michele Osella, Yannis Charalabidis, Euripidis Loukis, Policy Intelligence in the Era of Social Computing: Towards a Cross-Policy Decision Support System, in: Papers of the Workshop on Semantics in Governance and Policy Modelling in conjunction with Extended Semantic Web Conference, 2011.
- [15] David Osimo, Web 2.0 in Government: Why and How, JRC Scientific and Technical Reports, European Commission, Joint Research Centre, Institute for Prospective Technological Studies, Seville, 2008.
- [16] Don Tapscott, Anthony D. Williams, Dan Herman, Government 2.0: Transforming Government and Governance for the Twenty-First Century, Report, New Paradigm, 2008.
- [17] Clay Shirky, Here comes everybody: The power of organizing without organizations, Penguin Books, London, 2009.
- [18] Patrick Dunleavy, Helen Z. Margetts, The second wave of digital era governance, in: Conference Papers of the Annual Meeting of the American Political Science Association, 2010.
- [19] OECD, Policy Brief: Engaging Citizens Online for Better Policy-Making, OECD Observer, 2003.