

Introduction to Mini-Track ‘Towards Government 3.0: Disruptive ICTs, Advanced Policy Informatics/Analytics and Government as a Platform’

Euripidis Loukis
University of Aegean
eloukis@aegean.gr

Yannis Charalabidis
University of Aegean
yannisix@aegean.gr

Leif Skiftenes Flak
University of Adger
leif.flak@uia.no

The main objective of e-Government research and practice has been traditionally the provision of ICT-based services to public servants, citizens and firms, aiming at efficiency and effectiveness improvements on one hand of the internal operations of government agencies, and on the other hand of their transaction as well as their consultation with citizens and firms. As the needs, challenges and expectations of citizens and societies in general are changing and growing, and also the capabilities offered by ICTs are evolving, it is inevitable to have a shift in the focus of e-Government, leading to the emergence of new e-Government generations, providing new forms of benefits and public value, but also facing new types of challenges and problems.

We can distinguish a first generation of ‘e-Government 1.0’, which focused on the exploitation of ICT for improving internal efficiency and for providing electronic transaction services to citizens and firms through various electronic channels (e.g. Internet or mobile). Subsequently, the development and increasing penetration of social media gave rise to the emergence of a second generation of ‘e-Government 2.0’ (also referred to as ‘Government 2.0’), which focused on the use of Internet and social media for promoting transparency, citizens’ participation and collaboration, and in general the concept of ‘open participative government’.

Recently, a multitude of complex and serious challenges and problems that modern societies face, in combination with the emergence of some new transformative and ‘disruptive’ Information and Communication Technologies (ICT), are gradually leading to the development of a new generation of ‘e-Government 3.0’ (also referred to as ‘Government 3.0’). Typical examples of such disruptive ICTs are big data, Internet of Things (IoT), artificial intelligence, intelligent bots and agents, business analytics, data mining, distributed ledger technologies and blockchain, gamification, and computer-based societal simulation. Government starts exploiting these technologies in order to improve its efficiency and effectiveness, provide new kinds of valuable services to citizens,

firms and public servants, and also formulate better public policies for addressing the challenges and problems of modern societies using advanced policy informatics and analytics. Furthermore, government increasingly uses advanced ICTs also in order to mobilize and exploit societal resources (such as skills, information, knowledge, creativity) as well as assets of citizens and other non-government actors, and combine them with its own resources, in order to design and implement policies and generate public value collaboratively, assuming gradually new roles of government ‘as a platform’.

In particular, this new generation of e-Government 3.0 / Government 3.0 is focusing on:

i) The smart utilization of the above new disruptive ICTs, for achieving unprecedented improvements in the internal processes and practices of government agencies, as well as in the services they offer to citizens and businesses, and also effective support of short, medium and long term decisions, as well as optimization of important infrastructures (such as roads, bridges, etc.) and resources consumption (such as water, electricity etc.).

ii) The promotion of evidence-based decision and policy making for addressing the complex and serious challenges and problems of modern societies, by leveraging the above disruptive ICTs, especially through the exploitation of IoT, big data, advanced modelling, artificial intelligence, data analytics and societal simulation.

iii) The mobilization and leveraging of both ‘internal’ public sector resources (skills, information, knowledge, creativity, assets) as well as corresponding ‘external’ societal resources, through engagement and participation of a wide range of stakeholders, through extended crowdsourcing, public value ‘co-creation’ processes and practices, etc., towards the design and implementation of effective public policies for the above challenges and problems, and the provision of valuable public services.

This Mini-track aims to contribute to the generation of knowledge about various aspects of the development and evolution of this new generation of Government

3.0, such as ways of exploiting the above disruptive technologies for generating new types of value for the society in different domains of government activity, including new services and new better and more effective public policies, and also advanced methods and practices for extended crowd-sourcing/citizen-sourcing and public value co-creation, etc.

After a rigorous review process for this Mini-track have been finally selected three papers, which address critical aspects of Government 3.0 development: the exploitation of Blockchain and IoT technologies in government, and also advanced ICT tools for supporting a more substantial citizens' engagement and participation in government decisions and policies.

The first paper is titled 'Benefits and Obstacles of Blockchain Applications in e-Government', and has been authored by Charalampos Alexopoulos, Yannis Charalabidis, Aggeliki Androutopoulou, Michalis Avgerinos Loutsaris and Zoi Lachana. It presents a thorough analysis of e-Government pilot applications of Blockchain technologies (BCT) at a European level. Furthermore, it analyses the key benefits and main barriers coming from the application of this technology in different domains, based on discussions with BCT experts. Their findings indicate that BCT is an enabling array of technologies that can contribute to the openness and transparency of services in the public sector; it can be incorporated in several public services and enhance transparency and trust in governments. Recent application scenarios allow even immigrants' new identities and health records that could never be falsified. At the level of public administrations record keeping constitutes the most widely-used application area of BCT due to a series of advantageous technical properties it possesses concerning the creation and verification of records, such as speed, security and transparency.

The second paper is titled 'Towards an Internet of Things Society: Perspectives from Government Agencies in Sweden', and has been authored by Juho Lindman and Ted Saarikko. It describes an explorative qualitative study, based on 16 interviews with key respondents from government agencies in Sweden, aiming to discover the public sector agencies' current 'maturity' with respect to the exploitation of IoT; this maturity is perceived as a composite property including the possession of expertise related to: a) the IoT, b) the ability to apply (or guide the application of) the IoT,

and also c) the challenges in IoT governance. They have focused on a seven highly important sectors: energy, food, transportation, health care, financial services, information and communication technologies, and security. Interesting IoT governance challenges have been identified related to the complex ecosystem required for the development of the IoT with interplay of several public and private actors, including lack of common guidelines, sparsity of expertise, and evolving roles of the involved government agencies in an increasingly connected society. The identified inconsistencies among the examined government agencies provide opportunities to promote structures that facilitate interagency knowledge transfer and learning.

The third paper is titled 'Identifying Potential Conflict in Land-Use Planning Using a Values-Centered E-Participation Tool: A Canadian Case Study in Aggregate Mining', and has been authored by Simone Philpot, Keith Hipel and Peter Johnson. It presents a highly interesting case study in which an innovative interactive e-participation platform is used in order to identify potential values' conflicts and points of dissonant perspectives between formal decision-makers and citizens in an aggregate mining controversy in Ontario, Canada. Formal decision-makers have used a 'Public to Public Decision Support System' (P2P-DSS) in order to create a model of the specific issues and decisions under discussion from their own perspective; this model is then used as basis for collecting citizens' input about their preferred decision outcomes. The strategic insights obtained are useful for government agencies and professional decision-makers who want to use e-participation in order to better understand citizen perspectives on controversial decisions, and shed light on the motivations of citizens who support or reject policy and management decisions. Moreover, they can be exploited to tailor communications and conflict management initiatives with citizens.

We believe that this Mini-track provides some first knowledge, and at the same time stimulates further research as well as debate, about highly innovative and revolutionary directions of e-Government, which provide huge opportunities for public value generation, and can be quite beneficial for modern societies, but at the same might pose significant challenges and risks that have to be investigated and managed.