


Chapter 36

The Role of Smart Technologies to Support Citizen Engagement and Decision Making: The SmartGov Case

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ABSTRACT

Smart government relies both on the application of digital technologies to enable citizen's participation in order to achieve a high level of citizen centricity and on data-driven decision making in order to improve the quality of life of citizens. Data-driven decisions in turn depend on accessible and reliable datasets, which open government and social media data are likely to promise. The SmartGov project uses digital technologies by integrating open and social media data in Fuzzy Cognitive Maps to model real life problems and simulate different scenarios leading to better decision making. This research performed a multiple-case analysis in two pilot cities. Both municipalities use the technologies to find the best routes: Limassol to improve the garbage collection and Quart de Poblet to improve the walking routes of chaperones guiding children to school. The article proposes a generic framework for Smart City Governance focusing on the inputs and outcomes of this process in the use of technologies for policy making built based on the analysis of the SmartGov.

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1. INTRODUCTION

A smart city is characterized by the efforts of its government and local authorities to increase the quality of life of its citizens living and/or working in the area. “The smart city field has come to a uniform definition, which deals with innovation (not necessarily but mainly ICT-based) in the urban space that aims to enhance the 6 city dimensions (people, economy, government, mobility, living and environment)” (Anthopoulos et al., 2016, p.12).

In order to address the challenges of smart cities new and innovative forms of governance are needed, with a special role in connecting initiatives between governments and citizens and keeping the decision processes transparent (Bolívar, 2016; Albino et al., 2015; Castelnovo et al., 2015). ICT-based tools, such as social media applications and open data portals, can be factors that support the development of new governance models for smart cities, as well as increasing citizen engagement.

The importance of citizen engagement and co-production has been emphasized in projects and studies, addressing aspects such as the change in the relationship between citizens and government through a single community engagement platform (WeGovNow) and the role of citizens as co-creators of services and policies and how it can enhance its innovation and effectiveness and lead to new forms collaboration (Linders, 2012). In the domain of smart cities, literature has also been addressing the importance of data for smart governance (Kitchin, 2014), the role of e-governance as a new vehicle for the emerging ‘smart city’ (Paskaleva, 2009) and IoT-based system for smart city development and urban planning using Big Data analytics (Rathore et al., 2016). In this research we combine these perspectives through the SmartGov project as a truly transdisciplinary research project that promotes two-way communication between citizens and urban policy makers to improve the understanding of how socially, economically and environmentally sustainable urban areas can be created using Fuzzy Cognitive Maps (FCMs), open data and social media feeds.

The main contribution of the SmartGov framework is that it makes use of the aforementioned data sources to understand societal demands and identify feasible solutions to problems in the pilot cities. FCMs are an innovative decision support tool that allow for visual modelling and simulation of the collaborative discussions involving all stakeholders, creation of real time urban government management and participatory approaches in Smart Cities.

This research focus on the following questions: what is the role of digital technologies in promoting smart city governance and what are the outcomes of using ICT in the decision-making processes? The SmartGov project has the objective of strengthening urban governance, decision support and citizens engagement in (smart) cities. For this reason, this article addresses the research question by analysing the potential application of smart technologies to support decision-making and related outcomes. The main expected result of this paper is a generic framework of inputs and outcomes of the Smart City Governance concept built based on the analysis of the SmartGov project.

The rest of this paper is structured as follows. Section 2 presents the theoretical background in which the topics of emergent technologies in government and Smart cities are addressed. Section 3 provides the description of the two case studies examined in the SmartGov project. Section 4 discusses some potential results and the proposed framework. The final section presents the conclusions of the paper and future work.

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