Chapter 66
Smart Government:
Opportunities and Challenges in Smart Cities Development

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ABSTRACT

The advent of Smart Cities is one of the greatest challenges and field of opportunities in the goal to achieve sustainable, comfortable, and socially responsible living environments. A large number of factors, spanning from government/administration/citizen interaction models, heterogeneous communication network, interoperability, or security determine the capabilities and functionalities that can be deployed. In this chapter, different factors in the implementation and adoption of E-Government within Smart City scenarios are described. The authors include the Interoperability Principle as a part of the Open Government concept and link this concept with the Smart Cities view. Then, they describe a new model of public organization that they call "Intelligent," characterized by the "Smart Government," and they propose a matrix with the elements of this model. Then, the authors analyze the technical and infrastructure dimensions of the matrix.

INTRODUCTION

Efficiency, effectiveness, sustainability, and citizen-centric services are obligations that governments need to fulfill. In order to achieve them, society and governments need to understand that everything is interconnected in our society nowadays. Concepts, actors and institutions, systems, environments, energy, citizens, infrastructures, information, policy and technology are elements or subsystems that are interweaved within a larger system, which needs to adopt the key of the governance efficiently. We refer to a system of systems within our current Information & Knowledge Society's context.

The evolution in population distribution is heading towards the increase in the amount of people living in large urban areas. This poses one of the biggest challenges for mankind: achieving sustainable cities as well as increasing the quality of life of such environments, in which the local government is the closest to citizens. Administrations have the responsibility to provide the best public services to citizens. They can more easily know and understand their needs, and foresee the best way to satisfy them. The local government is the government of cities and, in this context, it has the key to transmit and provide their services to the citizenship by using off-the-shelves tools for a true and real adoption of the governance paradigm.

The nexus between Government & Governance and Citizenship & Cities within the Information & Knowledge Society are keys of a new view of our world as a "system" in which its optimal status should be to achieve the highest degree of governance within a city, in which their benefits are maximized and their disadvantages are minimized. The first key, should be associated with the adoption of the governance paradigm from the Open Government and, the second one, should be associated with an intelligent way to understand our environment as a Smart City. Both together are the optimized level of a new ecosystem within the public organizations, characterized by an open & smart government, where ICT and interoperability are powerful tools. The implementation of a Smart City is a complex task that requires a multidisciplinary approach. In this chapter, we provide a holistic view following a top-down approach so as to present the characteristic elements of Smart Cities and the challenges that have to be faced in their deployment from an ICT & Infrastructure perspective.

In this chapter, different factor in the implementation and adoption of e-Government within Smart City scenarios will be described. We will include the Interoperability Principle as a part of the Open Government concept and we link this concept with the Smart Cities view. Then, we will describe a new model of public organization that we call "Intelligent", characterized by the "Smart Government", and we propose a matrix with the elements of this model. Then, we analyze the technical and infrastructure dimensions of the matrix.

From the Open Government to Smart Government

Transparency, collaboration, and participation are elements identified as Open Government principles included within the perspective of Obama (2009). In addition and related to IT adoption, from a public organization perspective, according to Jiménez & Gascó (2012) we can understand Open Government as an evolution of e-Government, in which the governance paradigm is achieved, and the ICT role and its degree of adoption is a key driver that has important implications. In fact, we are in front of key tools that give us the possibilities to transform into a reality, the term used since the 50's of the 20th Century (Parks, 1957): the Open Government. In this sense, according to Jiménez & Gascó (2012) "the Open Government is given by characteristics that turns it into an unprecedented fact, related with its openness high level (…) the new perspective, from our view, it is not based in the objectives but in its tools used to achieve it". In this sense, we see ICT as a driver, an integral driver that has transformed and (it is yet transforming) our society and all its elements. The level of change will depend on its degree of adoption.

Information and Communications Technologies, as drivers, mean an important view of the back office within the context of Open Government, but it is a "hide side", and we see the special need for focusing and analyzing this key side from the ICT as a driver. From this view, within the Open Government view there is a principle that harmonizes the key elements of governance and the back office, a key and critical factor for the achievements of e-Government in a broad sense, an element that has evolved from the technical

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