

Chapter 61

Smart City Governance for Sustainable Public Value Generation

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ABSTRACT

This position paper belongs to a series of contributions on sustainable public value generation in urban areas. The article looks at how the complex transition process cities will be experiencing in the coming decades may be governed. In particular, the discussion investigates the role played by Information and Communication Technologies (ICTs) as well as how the intelligence of smart cities may be oriented towards the generation of sustainable public value. The topic is analysed from a value-oriented perspective and in the light of almost two decades of technology-driven innovation in both the private and the public sector. Two conceptual frameworks are proposed. The first one identifies the main contributions offered by ICTs, namely: the enablement of new production, distribution and governance processes; the transformation of organizational and institutional arrangements; and the information of individual choices and behaviours. The second one highlights the trade-offs to be managed and the principles to be applied for turning city intelligence into sustainable development.

1. INTRODUCTION

An overwhelming body of scientific evidence now clearly indicates that climate change is a serious and urgent issue (Stern, 2007). Concurrently, the unprecedented growth in the world's population occurred over the last centuries – coupled with the gradual increase in developing countries' spending power – has contributed to exacerbate the unsustainability of existing consumption patterns. The consumption of world's natural resources at a faster pace that they can be restored has been proven over the decades to be one of the main pitfalls of modern socioeconomic systems (Meadows *et al.*, 2004): the world, in fact, not

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only has become ‘flat’ (Friedman, 2005) but also ‘hot and crowded’ (Friedman, 2008). The combined effect of the above phenomena is slowly but steadily leading the world towards a global environmental, economic and social collapse. As put in Stern (2007), there exists a serious risk of major irreversible changes with non-marginal effects on modern life as we know it today.

We are living momentous times, probably one of the few points in human history when mankind is called upon to act united and focused to face a number of major collective challenges. Contemporary governments, businesses and individuals are faced with an unprecedented responsibility towards future generations. As the President Obama (2015) affirmed when presenting the American clean power plan: “We are the first generation experiencing the impacts of climate change and the last in the position to do something about it”. The situation calls for a quick and significant reconceptualization of current economic and societal models and the governance of the required change poses complex policy challenges with little or no room for errors.

In such a scenario, cities have been identified by many commentators as the battle-ground in the fight against climate change. As a matter of fact, cities are responsible for over 70% of the world’s greenhouse emissions (UN-HABITAT, 2011) and for 60% of planetary energy demand (van der Hoeven, 2012) but, at the same time, they are places where the greatest efficiencies may be obtained. Moreover, half of the world’s population already lives and works in cities (OECD, 2006), generating more than 80% of global GDP (Dobbs, Smit, Remes, Manyika, Roxburgh, & Restrepo, 2011); this approximate power-law distribution is testified by World Health Organization & UN-HABITAT (2010), according to whom 150 metropolitan urban regions across the world generated almost 50% of the global GDP. In other words, cities are the *loci* where a process of deep societal and economic reform should start from, where global issues may be addressed locally as they have a sufficient critical mass in both demographic and economic terms to ignite a planetary revolution.

Acknowledging this evidence, in 2007 the European Commission launched the Strategic Energy Technology Plan (SET Plan¹) which entails a smart city initiative to encourage and support urban areas willing to go beyond the well-known 20-20-20 objective. Such initiative posed a significant emphasis on the role of ICT as a strategic lever in the attainment of higher levels of sustainability and quality of life. A view shared by many international institutions and think tanks which promote the vision of a ‘wired’, ICT-driven form of development.

To summarize, the situation depicted above highlights four main messages: firstly, the need to revisit the way society is organized and managed thus giving birth to a global process of reform; secondly, the identification of cities as fertile soil where to start the reorganization from; thirdly, the significant expectations placed on information and communication technologies as a central ingredient of such change; finally, the need to understand how to operationalise the generation of a sustainable development.

The focus of the article at hand cuts across the above messages and may be delimited by three simple yet fundamental questions:

- How is the transition that cities will have to undergo going to be governed?
- What role will ICT play in the governance of such process?
- How may the intelligence of smart cities be turned into sustainable development?

The discussion included in this paper offers some reflections on the above questions and proposes two conceptual frameworks containing a simple yet practical representation of the role that ICT may

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