Chapter 7

Citizen Perceptions and Support for Smart City Projects: The Case of “Smart Santander”

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ABSTRACT

The Information and Communication Technologies (ICT) applied to territories leads to the phenomenon of “Smart City.” The goal of a smart project is to use technology to manage all of the issues of a city (mobility, heritage, environmental, safety, and health services) in a more sustainable, livable, and efficient way, which will result in improving the citizens’ quality of life. To know how the individuals perceive and evaluate these smart initiatives, we surveyed 525 citizens of Santander, a city in Spain that has developed a smart city project. As a result, we found that the citizens who are more familiar with smart cities are more likely to perceive that these types of projects have positive economic, cultural, environmental, and reputational impacts for the towns. This group of citizens also has a more positive attitude toward smart cities, assesses more favorably the brand equity of the smart project under investigation, and shows higher support for it.

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INTRODUCTION

Nowadays, cities are complex systems that are characterized by massive numbers of interconnected citizens, businesses, means of transport, communication networks, services, and utilities (Neirotti, De Marco, Cagliano, Mangano, & Scorrano, 2014). The complexity of the social ecosystem in cities can bring up problems related to traffic, pollution, health, scarcity of resources, waste management, and poor infrastructure (Sujata, Saksham, Tanvi, & Shreya, 2014). These are important challenges for policymakers. In this context, the Information and Communication Technologies (ICT) applied to territories have created new opportunities to assure future viability and prosperity in metropolitan areas (Falconer & Mitchell, 2012; Secundo, Del Vecchio, Dumay, & Passiante, 2017; Lim, Kim, & Maglio, 2018), and to improve the economic, social, and environmental sustainability of a city (Neirotti et al., 2014).

In particular, the integration of ICT within a city leads to the phenomenon of a “Smart City.” Smart cities use technology -Big Data and Internet of Things- to address all of the issues of the city in a “smarter” –i.e., more sustainable, livable, and efficient– way (Sujata et al., 2014). ICT helps cities make better use of their resources (Neirotti et al., 2014) by incorporating new value-added services based on real-time data: parking availability, traffic density, or waiting time in public transportation routes, among others. Also, wireless Internet and web 2.0 allow increased interconnectivity and interactivity between public administrations, citizens, and firms (Vicini, Bellini, & Sanna, 2012). All this is leading to higher empowerment of citizens in the urban decision-making processes and, consequently, to an increased co-creation of high added-value services in the cities.

In previous research on the planning and development of communities, an important field has been the citizens’ satisfaction with the community (Sirgy & Cornwell, 2001; Nunko & Ramkisson, 2011). More concretely, this field is specifically referred to as the citizens’ evaluations of government services (Nunko & Ramkisson, 2011). Taking into account that the implementation of a smart city project aims to improve the quality of life of citizens (Vicini et al., 2012; Buhalis & Amaranggana, 2014), we consider it important to know how the individuals perceive these smart initiatives. Despite the high interest in this topic, there is a lack of studies considering this perspective. With this in mind, our study focuses on the citizens. It examines their perceptions and attitudes towards smart cities in general as well as their evaluations and support for a specific smart city project. Also, we introduce the concept of familiarity with smart cities and, subsequently, establish several research questions to examine if the citizens’ perceptions, attitudes, and support are significantly different according to their level of familiarity with smart cities.

In order to answer these research questions, we carried out an empirical research project focused on the citizens of Santander, a city in northern Spain. The interest in this territory lies in the fact that the city of Santander has developed a successful smart city project so-called “Smart Santander,” which has become a city-scale experimental research facility in the field of smart services in Europe (Sotres, Santana, Sánchez, Lanza, & Muñoz, 2017). As a result of this project, 20,000 sensors have been deployed in Santander and the partner cities (Belgrade, Guildford, and Lübeck), exploiting a large variety of technologies. Thus, Santander is one of the most successful cases of a smart city in Spain, together with the cities of Madrid, Barcelona, Valencia, and Málaga. In the following section, we present the theoretical framework related to the smart city projects, with special attention to the citizens’ perceptions, attitudes, and support for them. Then, we describe the methodology used for gathering the data, and we present the main results obtained. Finally, we detail the main conclusions of empirical research and identify theoretical and practical implications.