Chapter 13
Using Big Data and Artificial Intelligence to Enhance Smart Cities

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ABSTRACT

This chapter analyzes the relationships that cities have with digital technologies. Smart cities are at the crossroads between the development of information and communication technologies in the city, and the affirmation of a new paradigm of sustainable urban development. To assess the social impact of smart cities on citizens, an empirical study was needed. The study and analysis of the data allowed measurement of the level of interest and sensitivity of citizens, to know the connected people who use new technologies, to collect the opinions of the inhabitants and users of the city to identify the main needs, and to improve the comfort of the inhabitants while having more efficient transport. This study has enabled the formation of future projections so that all citizens benefit from the powers of smart cities.

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INTRODUCTION

The use of New Information and Communication Technologies (ICT) in the work's world is booming thanks to scientific research which aims to create news in the economy. This development produces the birth of a new world order of ICT and economics, where rich countries are using ICT to be more sophisticated (Novikov et al., 2020). One of these most innovations which have a very broad impact is the smart city, a smarter urban area, based on the use of all that is technological to transform the way of life for the better, thus the worlds for leisure and work (Pieriegud & Zawieska, 2019).

The inclusion and cooperation between the different actors, who pool their ideas, expectations, skills, and resources to optimize cities gives birth to Smart Cities. These actors can be companies and manufacturers, who create new activity structures, invest in projects and they are a source of the integration of technological innovation in everyday life (De Guimarães et al., 2020).

When we hear about a technology, we are interested only in its advantageous usefulness, that it acts in the simplification of life in every day and decrease the human effort. It is the basic rule of Smart Cities.

The Smart City is a city that, through its efforts, is a center of professional knowledge and skills, a large gathering of highly skilled workers.

Today, the deployment of new technologies combined with growing urbanization makes it possible to experience the city differently. In this context, the Smart City is built through a set of arguments and beliefs. It is also organized and structured around concrete and materialized achievements.

Smart Cities integrate the population's information to treat their needs, hence the necessity to manage this information effectively. Hence the objective of this present work is to answer how we will guarantee the benefits of Smart Cities in real-time(Li et al., 2020).

This work will be presented as follows; first we started with a state of the art on Smart Cities, second an empirical study to assess the social impact of smart cities on citizens, third we analyzed, how we can manage smart cities to make daily life's citizens easier by exploiting technological development by focusing on the powers of Big Data and artificial intelligence, and by taking demographic growth into consideration, by exposing examples of smart city projects.