MEDINFO 2015: eHealth-enabled Health
I.N. Sarkar et al. (Eds.)

doi:10.3233/978-1-61499-564-7-983

(Br-SCMM) Brazilian Smart City Maturity Model: A Perspective from the Health Domain

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Abstract

The term definition "Smart City" still allows various interpretations, and this causes some difficulty in establishing parameters to measure how smart the cities can be. This paper presents a Maturity Model that uses a set of minimum domains and indicators that aim to encourage cities of different sizes to identify their potential and improve processes and public policies.

Keywords:

Public health; Big Data; Government; Smart Home.

Introduction

The concept of Smart Cities is still confused. Some authors suggest the use of scenarios related to transportation, health, technology, infrastructure, stability and others [1,2]. The purpose of this work is to present a way to measure how smart a city can be. In addition, to propose an incentive mechanism for cities to come to the ranking of the Smart Cities emphasizing the domain Health of these cities; and what indicators can be used to make this comparison between municipalities.

Methods

To create the rating for smart cities, the attention on creating minimum measures which may be affected by these smaller municipalities is needed. Therefore, this work proposes to create a model composed of ten areas called "Domains Basic" where each domain has its respective "Basic Indicator" [3].

Table 1 – Basic Domains and Indicators

Basic domains	***Basic Indicators***
A. Water	Piped water
B. Education	HDI-Education
C. Energy	Access to energy
D. Governance	HDI Employment
E. Housing	Private residence
F. Environment	Garbage collected
G. Health	HDI, ISO37120
H. Security	Homicides per 1000
I. Technology	Computer at home
J. Transportation	Mass transit

Results

The model proposed in this work was called Br-SCMM (Brazilian Smart Cities Maturity Model). It uses the domains and indicators presented in results of this study to measure the first level on a scale from 1 to 5 to identify possible areas for improvement before that the following levels are adopted. The levels are divided into five categories that compose the word (SMART): Simplified, Managed, Applied, Measured and Transformed. All Brazilian capitals were measured using the S level of this model.

Conclusion

This work presented the domains and indicators that will be used to measure the capacity optimization and improvement of municipal resources and processes. The model (Br-SCMM) is being developed in partnership with three Brazilian universities and the municipalities where these institutions are located so that you can implement and test the following levels of this model.

Acknowledgments

This work was supported by the FACEPE grant IBPG-0499-1.03/11.

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