

Where do we stand in the field of Smart Cities? A survey amongst Belgian municipalities

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Abstract:

Even if an increasing number of scientific publications are dealing with it, the concept of “smart city” is not yet well defined and it is not fully understood (Anthopoulos and Vakali 2012; Caragliu, Bo, and Nijkamp 2009; Lazaroiu and Roscia 2012). Due to the lack of a proper conceptualization, defined method or credentials for smart cities (Angelidou 2015; Nam and Pardo 2011), cities across the geographical spectrum claim themselves 'smart' with self-congratulatory note (Hollands 2008). In addition, over the last decade, many rankings, competitions, fairs, congresses or (research) projects have been launched under the “Smart City” umbrella. Despite this increasing popularity of smart cities, there are few critical discourse and rigorous analytical or statistical analyses of the concept and its application on urban territories (Caragliu, Bo, and Nijkamp 2009; R G Hollands 2015; Kitchin 2015; Vanolo 2014)

This paper aims at understanding where Belgian municipalities stand in the field of Smart City in 2016 (Deakin 2014; Jose and Miralles 2015; Ben Letaifa 2015; Meijer and Bolivar 2015). Thanks to a survey (extensive quantitative research), it proposes to understand the perceptions, the realities and the stakes of the Smart City phenomenon in Belgium. Pointing out key statistical observations, it provides a first scientific and quantitative state of the dynamics.

The theoretical framework of this quantitative research is built on three models: the SMART model conceived by Letaifa (2015), the three fundamental components of Smart City (Technology, People and Institutions) identified by Nam and Pardo (2011) and the six dimensions (Smart Economy, Smart Environment, Smart Governance, Smart Mobility, Smart People, Smart Living) of Giffinger (2007).

Three categories of observations are derived from the statistical analyses of the data collected.

- The first part of the results tackles how Belgian municipalities understand the concept of Smart City and how they translate it to the realities of their territory.
- The second part considers concrete applications of the concept by the municipalities. How many smart city projects do they develop or support? Who are the key stakeholders involved? What are the major dimensions (Giffinger 2007) considered? What are the main current barriers? Etc.
- The third part highlights insights about how municipalities manage smart city –related projects. Do they have elaborated a specific vision or strategy? How is the governance organized? Which resources are available for supporting the development of smart city projects? Etc.

From a methodological point of view, the data were collected via an online survey. A questionnaire (with 30 items) was sent to the 589 Belgian municipalities. Different channels were used to reach this population. Political as well as administrative leaders were targeted.

A final sample of 113 municipalities completed the survey (19% response rate) with a balance between larger and smaller as well as urban and rural municipalities. A geographical repartition over the three regions of the country (Flanders, Wallonia and Brussels-Capital) has also been achieved. The data collection lasted five months (from May to October 2016). Calculi and statistical treatments were made with the software SPSS.

The huge majority of respondents are general directors and heads of departments of municipalities (55% of the respondents). The preliminary results show that Belgian municipalities consider the Smart City phenomenon as an opportunity for them and as the future of cities. However, nowadays, the concept remains mainly perceived as a technological challenge. This latter vision is more pronounced in rural and Walloon municipalities. Most Belgian municipalities feel (highly) concerned by the concept of Smart City, except in Wallonia and in rural areas.

Smart City projects are perceived as complicated to set up. The lack of budget, the insufficient expertise available in the administration and the complexity to mobilize and engage the various stakeholders are identified as the main barriers for the implementation of Smart City projects. A clear and distinctive Smart City - related strategy and management is not developed in most Belgian municipalities: only 11 municipalities have a Smart City Strategy and only 17 have a Smart City manager. Belgian municipalities see Smart City dynamics as a top-down process involving mainly local public actors. Indeed, according to them, public authorities initiated the huge majority of the projects. In addition, it is mainly the municipal authorities and their administrations, which are involved and managed them. The respondents perceive thus the involvement of private actors, Civil Society and other (scientific) experts as very limited for the moment.

However, they seem to be conscious that Smart City dynamics and projects require the involvement of more actors. The respondents mention that the mobilization of the different stakeholders is the third most important barrier for the implementation of Smart City projects in Belgium. Belgian municipalities ask for tools such as a practical guide, training and information sessions or workshops

In terms of management, only a minority of municipalities have a real “Smart City” vision and a very limited number of them dedicated clear resources to support their smart city projects (people, funding, etc.). The perception and the application of the concept of Smart City vary in function of the nature of the municipalities (urban VS rural) and in function of their geographical position in Belgium (Flanders, Wallonia or Brussels). This confirms that cultural, political, economic, etc. aspects have an impact on the understanding and the application of the concept.

Key words: *smart city, governance, statistical analysis, strategy, municipalities, Belgium*

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