World Academy of Science, Engineering and Technology
International Journal of Social and Business Sciences
Vol:11, No:08, 2017

# Crowdsensing Project in the Brazilian Municipality of Florianópolis for the Number of Visitors Measurement

**Authors :** Carlos Roberto De Rolt, Julio da Silva Dias, Rafael Tezza, Luca Foschini, Matteo Mura

**Abstract :** The seasonal population fluctuation presents a challenge to touristic cities since the number of inhabitants can double according to the season. The aim of this work is to develop a model that correlates the waste collected with the population of the city and also allow cooperation between the inhabitants and the local government. The model allows public managers to evaluate the impact of the seasonal population fluctuation on waste generation and also to improve planning resource utilization throughout the year. The study uses data from the company that collects the garbage in Florianópolis, a Brazilian city that presents the profile of a city that attracts tourists due to numerous beaches and warm weather. The fluctuations are caused by the number of people that come to the city throughout the year for holidays, summer time vacations or business events. Crowdsensing will be accomplished through smartphones with access to an app for data collection, with voluntary participation of the population. Crowdsensing participants can access information collected in waves for this portal. Crowdsensing represents an innovative and participatory approach which involves the population in gathering information to improve the quality of life. The management of crowdsensing solutions plays an essential role given the complexity to foster collaboration, establish available sensors and collect and process the collected data. Practical implications of this tool described in this paper refer, for example, to the management of seasonal tourism in a large municipality, whose public services are impacted by the floating of the population. Crowdsensing and big data support managers in predicting the arrival, permanence, and movement of people in a given urban area. Also, by linking crowdsourced data to databases from other public service providers - e.g., water, garbage collection, electricity, public transport, telecommunications - it is possible to estimate the floating of the population of an urban area affected by seasonal tourism. This approach supports the municipality in increasing the effectiveness of resource allocation while, at the same time, increasing the quality of the service as perceived by citizens and tourists.

**Keywords :** big data, dashboards, floating population, smart city, urban management solutions
**Conference Title :** ICHT 2017 : International Conference on Hospitality and Tourism
**Conference Location :** Vancouver, Canada
**Conference Dates :** August 07-08, 2017