

How to measure the quality of life in smart cities?

April 12 2016, by Gianluca Dotti

From pollution levels and the number of traffic accidents to safer public spaces and more efficient heating in buildings—to what extent can the smartness of a city be quantified? And is it possible to measure the quality of life for an urban area through numerical parameters?

It's all about collecting data that is reliable and making sense of the numbers afterwards. Without making the numbers talk, indicators such as smartphone penetration, renewable energy generation and household internet access will simply remain sterile digits.

In Europe, different organisations are trying to identify the best indices for urban smartness.

"One of the main findings is that relevant and up-to-date statistics are generally lacking," explains Philippe Compère, who collaborates with Remourban, a European project developing a replicable urban regeneration model for middle-sized towns.

"Some towns and cities lack information, and where existing resources do exist, these are not at city level. Therefore, open data is urgently needed. It should be gathered for all European cities, and available for anyone to analyse," he adds.

It has emerged that there are surprisingly more gaps in the energy sector than in mobility or information technology, despite power supply being a strategic priority in every country.

Smart cities should mean better services for citizens, more responsive administrations and less impact on the environment. In this context, is it also possible to measure the people's well-being?

There has been an attempt to collect this kind of data several times a year across the 34 countries of the Organisation for Economic Cooperation and Development (OECD). Since 2014, comparisons have been made using nine criteria, with [open data](#) available for researchers and citizens. They include access to services, civic engagement, environment, individual income, employment and education.

It is not easy to ensure meaningful international comparisons to produce a life-satisfaction index. "This is a sign of the richness and diversity of the various places," says Paolo Veneri, economist at OECD, who explains that their aim is "to set priorities" in a bid to effectively improve people's living standards.

Miimu Airaksinen is a research professor at the Finnish Technical Research Centre and she has experience in the CITYkeys project, which is developing performance indicators and data collection procedures to monitor and compare smart city solutions across European cities.

She emphasizes the fact that "today, we are talking quite a lot about the Internet of Things, but we should focus more on the Internet of meaningful Things." In this sense, "the indicator values need to be flexible," she explains, "since it is very important to understand the overall picture rather to focus on the optimization of the indicators."

Explaining the issue with a practical example, Professor Roberto Masiero, from IUAV University in Venice, says that "It's not about how long cycle paths are, but rather what they mean to people. This can refer to issues of child safety, to cultural aspects and to how people use the public areas available to them. The focus is not how much we are smart,

but how."

The big open question remaining is how to correlate the numerical results of indices with the real perception of quality of life. How is the transition possible from the objective measures of smartness to an intangible entity of wellbeing?

"The technology isn't smart," says Masiero, "Smart should be both the citizens and the public administration, which must build a true dialogue with people. A smart city is above all inclusive, meaning the ability and opportunity for everyone to be an active citizen."

Airaksinen adds another point: "The perceived quality of life is dependent on family relationships and context. That is not included in most schemes, which take into account only the quantifiable things."

Finally, what should we expect from this challenging work on indicators? If researchers succeed in improving them all—and offering new tools for policy makers—then the quality of life in our cities will be probably much improved as a result.

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