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Smart Cities: is it just a fad?

1. Introduction

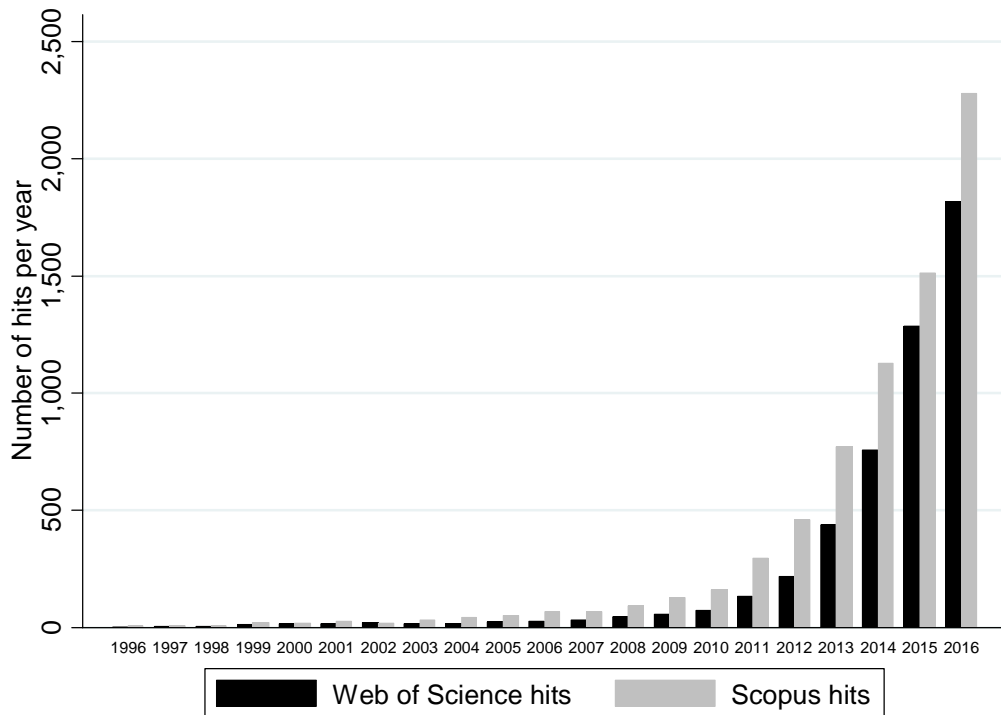
This Special Issue is entitled “*Smart cities – Past achievements and future challenges*”. To set it in its proper framework, it would be fair to admit that its initial tentative title was actually the current title of this editorial. In fact, we started discussing this potential Special Issue with the Editorial Board of *Scienze Regionali* in January 2016. We received enthusiastic support for the idea of tackling the issue of smart cities right when the topic was at its potential height?, and this has led us questioning the very novelty? of this approach. Is there anything new, and unique, which makes the label “smart city” really unlike anything else in the urban economics, planning, and geography disciplines? Hence the present question as to whether smart cities were just a fad bound soon to vanish.

We then started receiving many interesting contributions from friends and colleagues who continue to work on this topic with dedication. They offer much insight and knowledge that are definitely innovative and capable of delivering wise solutions to managing complex objects such as cities are?. In our own paper (of all of them we synthesize the main findings below?) we also report evidence on the importance of smart city policies in driving urban economic performance. Much interest in this topic can be seen everywhere: policies are funded at all administrative levels; conferences and workshops are organized all over the world; and the interest of private investors is anything but abated. Academia has followed suit: Figure 1 shows a web search of the keywords “Smart City” on Web of Science (black bars) and Scopus (light grey bars), two of the most widely adopted scientific search engines.

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Figure 1. Number of search hits per year of reference, Web of Science (black bars) and Scopus (light grey bars)



Source: Authors' elaboration. Raw data downloaded on July 13, 2017.

Keyword used for the search: "Smart city".

The graph shows an exponentially rising trend in the number of publications which match these keywords. It started in 1996 and reached its peak in 2016.³ Indeed, the interest in smart cities still seems to be on the rise. This tentative evidence suggests that smart cities are not just a fad. In this editorial we consider more closely why this should be the case, while presenting the contents of this special issue.

2. What is new about Smart Cities

An article in *Boom: A Journal of California* suggests that the timeline of research on "Smart Cities" and "big data" should begin considerably earlier than is usually the case; indeed, it should date all the way back to the late 1960s. "Beginning in the late 1960s and through most of the 1970s, the little-known Community Analysis Bureau used computer databases, cluster analysis, and infrared aerial photography to gather data, produce reports on neighborhood demographics and housing quality, and help direct resources to ward off blight and tackle poverty" (Vallianatos, 2015).

However, the true inception of the smart city literature can be more meaningfully dated to the early 1990s. This multidisciplinary strand of research initially focused on Information and Communication Technologies (henceforth, ICTs) as a key driver of regional and urban economic growth. Smart cities can in this sense be interpreted as a more comprehensive urban planning concept comprising some of the main features previously encompassed by the notion of the 'wired city' (Dutton et al. 1987), which highlighted the importance of networked urban spaces, and the 'intelligent city' (Komninos 2002) which stressed the importance of the cognitive elements of the digital dimension (Caragliu and Del Bo, 2017).

The animated debate on the role of ICTs in driving the so-called 'transatlantic productivity gap' has more recently shifted to a more nuanced discussion on the contextual conditions making ICT investment more effective. A major theoretical step forward has been achieved by Giffnger et al. (2007), who, for the first

³ Partial 2017 data suggest that the trend may still be ongoing.

time, suggested that resources different from ICTs should be simultaneously owned by cities wanting to foster long-run development. Within this framework, “A *Smart City is a city well performing in six characteristics, built on the ‘smart’ combination of endowments and activities of self-decisive, independent and aware citizens* (Giffinger et al., 2007, p. 13)”. These six axes? are Smart Economy, Smart Mobility, Smart Environment, Smart Governance, Smart Living, and Smart People. Many ingredients are therefore needed in order for efficient urban planning to take place, and mere endowment with ICTs is not enough to guarantee a city’s long-run economic development.

This work marks a break in the evolutionary trajectory of this field.?? This is recognized by Caragliu et al. (2011). The definition of ‘smart cities’ discussed therein acknowledges the synergic role of various urban growth-enhancing factors in shaping urban economic performance. In this sense, smart cities are something new with respect to previous similar labels?. This strand of literature stresses that various factors should be simultaneously present in order for cities to thrive. Technology is certainly important, but without skilled city dwellers, a wealth of human and social capital, and bottom-up participation, cities cannot be considered as truly ‘smart’.

While this last point requires careful empirical verification by statistically assessing the interplay among urban growth-enhancing factors, there is mounting evidence that cities which possess several of these factors tend to perform better than those which do not. Such verification is typically provided by means of case studies (Bakici et al., 2013; Lee et al., 2014; Shelton et al., 2015); but more recently econometric evidence has become increasingly available (Caragliu and Del Bo, 2012, 2016).

While this field of research is undergoing a sometimes rowdy process of evolution, to date the synergic process of urban development whereby ICTs and standard technologies combine with human and social capital, along with participated governance seems to be the real landmark of this literature, representing a feature attracting the interest of both policymakers and academics [non capisco questa frase].

3. What this special issue is about

In this Special Issue several new contributions to this literature come to the fore. The logical structure of the issue starts from Komninos and Mora (2018), who use bibliometric analysis to track? the historical evolution of the smart city concept in the scholarly literature between 1992 and 2012. The first-sight feeling? that the smart city movement? has only recently boomed is confirmed: this strand of literature is found to have significantly grown only in recent years. The contents of this research topic have also evolved over time, with three structural dichotomies governing analysis?: the technology-driven vs. human-driven approach; the top-down vs. bottom-up style of planning; and collective intelligence vs. data-driven intelligence. These three approaches tend to prevail in different geographical and disciplinary contexts, and highlight the wide range of issues that have been subject to debate in the economics, planning, and geography literatures, and that subsume under the Smart City umbrella?.

A topic that frequently emerges from the contents of this special issue concerns smart city policies. The literature is now reap for harvesting? the sound scientific evidence on the benefits of smart urban development, and smart city policies are being devised throughout the world. A prime topic in this regard concerns the adoption of smart urban policies aimed at enhancing urban networks. Capello (2000) argues that accelerating innovative activities require cities to connect together in networks that enhance their capacity to innovate. In this Special Issue, this point resurfaces in the Smart City literature?. Rodríguez Bolívar (2018) argues that, due to ever tighter budget constraints, local boards throughout Europe are forced to focus on public value creation. He draws on novel data collected by means of a questionnaire administered to city practitioners in European smart cities and concludes that public value creation is beyond reach for local policymakers. Traditional institutions and conservative mindsets are simply not up to the task, and innovation in governance is needed in order to maximize the impacts of such policies. This innovation could in fact take place by enacting a “*networking strategy of governance*”. Likewise, Schaffers (2018) reprises the

concept of “*networked information economies*” and claims that the Internet will increasingly serve as a platform for human connection (Benkler, 2006).

Secondly, smart city policies are new and complex to manage. Policymakers, planners, companies, and citizens need to develop a common theoretical framework, lest different goals for different stakeholders remain disconnected and the broader goal – that of making cities more efficient – remains elusive. In Komninos and Mora (2018) this is evidenced by the limited number of cross-citations between the three different fields of research mentioned above.

A third pillar of these findings consists in the increasingly pervasive role of the ‘Internet of Things’. As also discussed in Deakin (2018), emerging applications that enable data collection and processing, web-based collaboration and collective intelligence in cloud computing are the only technologies allowing scale economies in infrastructure provision, while also enabling a massive process of technological standardization.

These three major pillars of smart city policies pave the way for a radically new way of valuating programs?. Giffinger and Haindlmaier (2018) argue for the importance of smart city rankings as learning processes within the framework of place-based policies. Contrary to what is traditionally believed, i.e. that rankings can at best be considered as marketing tools, Giffinger and Haindlmaier claim that urban administrations may actually learn from benchmarking their cities’ performance against peers, thereby kick-starting a process of creative resonance.

Caragliu and Del Bo (2018) attempt quantitative assessment of the impact of smart city policies at the European level. They find, by means of an Instrumental Variables (IV) identification strategy, that Smart City policy intensity is associated with a better urban economic performance. Moreover, the use of IVs suggests that the causality goes from policy intensity to growth, not the other way round.

While this rich set of results marks an interesting advance in knowledge about the smart city, many contributions discussed in? this Special Issue also look forward to new challenges. Nijkamp and Kourtit (2018) argue that the definition itself of a smart city is difficult to operationalize. Smart cities could in fact be declined as ecologically sustainable cities, as cities low on urban energy consumption, as highly socio-culturally cohesive cities, as zero-fatality cities, or as cities with very low crime rates. In their paper, Nijkamp and Kourtit also focus on the relevance of big data in the smart cities movement?. One of the most attractive (and hazardous) features of the newly available technologies, in fact, is the vast amount of information that people’s actions create. In this regard, Nijkamp and Kourtit (2018) clearly lean toward the recent data-driven approach discussed by Komninos and Mora (2018) whereby city intelligence is related to awareness of the existence of much information generated by mobile devices, wireless networks, sensors, and the Internet of Things.

According to Schaffers (2018), open source and open innovation, participatory? governance, and in general bottom-up approaches to smart city policymaking will represent key factors in the success of this movement?. Schaffers (2018) argues that there is a wedge between technological opportunities, on the one hand, and a city’s governance and decision processes (with the level of citizens’ empowerment) on the other. He contends that real smart cities will emerge as a result of combining engineering and smart technological systems with ecosystem platforms and Internet-based collaboration mechanisms for involving citizens and their *collective intelligence*.

The findings discussed in this Special Issue provide further evidence that if smart cities really are a fad, then it is a rather long-lasting one. While much fuzz is being produced around this concept,? and despite the clearly imperfect overlap between private and public interests in the generation and dissemination of smart technological solutions in cities, the smart city movement? really seems to provide a rich (sometimes, complex) toolbox for enhancing cities’ efficiency. Given the ever rising number of people who decide to live in urban areas, anything that can help solve city-related problems should be welcomed. By the same token, any scientific work aimed at clarifying the concept of ‘smart city’ should be equally gladly received. We

believe that this Special Issue makes a minor but interesting contribution in this regard, and we look forward to keeping abreast of the continuous and exciting? developments in this field.

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