ORGANIZATION STUDIES

Call for Papers for a Special Issue on

Boosting Urban Sustainability through Organizing Collaborative Ecosystems for Smart City Development

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"Cities are at the heart of global change" (Acuto and Parnell, 2016: 873) and organizing their evolutionary models for a sustainable future is crucial to achieve the new global standard for sustainable development envisioned by the United Nations (2015a; 2015b; 2017a). Cities across the globe are facing unprecedented challenges, which are global in scale, and city-centric interventions and local sustainable development strategies are required to achieve broader targets of ecological effectiveness, equitable economic growth and equitable social development (Wachsmuth et al., 2016).

Urban settlements are home to more than half of the world's population (United Nations 2017b), however, they tend to fall short in incorporating sustainability in urban policy and management practices. For example, a quarter of the urban population is currently living in slums, and this figure has been growing in parallel with the levels of urban energy consumption and pollution. Despite occupying only 3% of the Earth's surface, cities have become one of the largest contributors to greenhouse gas emissions and account for 60 to 80% of global energy consumption. In addition, emerging urban issues also include: social exclusion and discrimination; rising insecurity; excessive water consumption; and difficulties in managing disaster risk (UN-Habitat, 2016).

The evolutionary process of urban settlements and society has always been strongly influenced by the continuous technological advancement. The technological innovations of the Neolithic era favored the initial transition from the living places of hunter-gatherers to the first permanent settlements in agricultural villages. During the 19th and 20th centuries, urbanized areas around the world were profoundly changed by the new transport and communication technologies introduced by the industrial revolution. This led to the definition of new combinations of buildings, transport systems and telecommunications networks. There was a radical transformation of the urban landscape, which was greatly influenced by technological innovation, with the belief that it would have led to growth, development, well-being and a better quality of life (Benevolo, 1993).

As in the past, a new period of transition is now in process. New ICT devices and systems have been introduced by the digital revolution and have become an integral part of billions of people's daily lives. These technologies are pervading and absorbing a wide range of functions in urbanized areas and have triggered radical transformations in the urban dynamics. The modern society is witnessing a rapid and silent revolution (Mitchell, 1995), which has opened up a new opportunity for supporting sustainable urban development: using information technology to solve the spatial, economic, environmental and social issues affecting urban environments. This technology-driven approach to urban sustainability is called smart city development.

According to the United Nations' *2030 Agenda for Sustainable Development* and *New Urban Agenda*, harnessing a smart-city approach to sustainable urban development is key to meet the aspiration which society has to (1) attain resource efficient, safe, inclusive and accessible urban environments; (2) sustain economic growth based on the principles of environmental sustainability and inclusive prosperity; and (3) provide equal access for all to public goods and high-quality services (United Nations, 2015b; 2017a).

Enabling smart city development is an ambition which an increasing number of cities are trying to achieve by designing and implementing strategies which make it possible to build a platform of ICT solutions which are deployed to tackle major social challenges and meet urban sustainability priorities. Examples of strategies for supporting smart city development can be found all over the world and smart city researchers have made significant efforts to investigate their design and implementation process (e.g., Angelidou, 2017; Datta, 2015; Lee et al. 2014; Vanolo 2014; Mora et al. 2019b; Appio et al., 2019). However, despite a growing interest in understanding how to effectively enable smart city development, as well as almost three decades of literature dealing with this subject, we still do not possess the knowledge necessary to explain what it takes for urban environments to succeed in becoming smart. The basis for this Special Issue is the notion that progress in this domain requires drawing upon existing organizational theory as it pertains to issues such as coordination and cooperation problems in cooperative ventures, the role of conflicting institutional logics and the changing role of authority relations in directing economic and social activity.

Recent studies reveal the presence of a deeply rooted division in research on smart cities. This is reflected in a set of fundamental dichotomies concerning whether smart city development should be based on a (1) technology-led or holistic strategy; (2) top-down or bottom-up approach; (3) mono-dimensional or integrated intervention logic; or (4) double or quadruple-helix governance system. Each dichotomy proposes divergent hypotheses on what strategic principles need to be considered when implementing strategies for smart city development, generating a critical knowledge gap that future research is required to overcome (Mora et al., 2017; 2019a).

When focusing attention on how organizations operate and collaborate in smart city governance systems, two divergent theories emerge. On the one hand, ICT companies suggests smart city development strategies require a closed collaborative model in which the interaction is only between: (1) solution providers acting as consultants that try to sell their smart technologies; and (2) local and regional governments, which are persuaded to underpin smart city development by adopting such proprietary technologies (Grossi and Pianezzi, 2017; Soderstrom et al., 2014; Paroutis et al., 2014; Hollands, 2015; Pollio, 2016). The double-helix structure of this collaborative model generates an entrepreneurial mode of governance in which information technology corporations working in the market of smart city services become the

main providers of ICT solutions for facing urban problems. These public–private platforms are supposed to allow "businesses to pursue their own interest whilst […] serving collective interests and public value" (Klievink et al. 2013: 67).

On the other hand, a significant body of literature suggests this double-helix collaborative model does not provide the collective intelligence which is necessary to drive smart city development and face the complexity that this socio-technological transformation process poses (Malone and Bernstein, 2015). This literature calls for a much more open and inclusive collaborative ecosystem based on a quadruple-helix structure in which all the city stakeholders representing governments, universities and businesses are involved, along with citizens and civil society organizations. In addition, this literature also suggests collaborative ecosystems leading to successful smart city developments are grounded in co-creation, participatory governance, community-led urban development, open innovation, crowdsourcing and user-driven innovation (Baccarne et al., 2014; Dameri, 2017; Leydesdorff and Deakin, 2011; Gardner and Hespanhol, 2018; van Waart et al., 2016; Kornberger et al., 2017; van Winden and van den Buuse 2017). In this context, research by Pinter-Wollman et al. (2017; 2018) and Doyle and Marsh (2013) encourages to take inspiration from the organizational mechanisms controlling animal-related collective activities, which can be instrumental in providing an improved understanding of what collaborative mechanisms should be considered to govern urban environments and their development strategies.

This second model, which relates to "the changing nature of Weberian bureaucracy" (Kornberger et al. 2017: 181), appears to be dominant in the current literature on smart city development. This change is a fundamental issue of contemporary organization studies and is well captured by both Arellano-Gault et al. (2013)'s Special Issue and Kornberger et al. (2017), which explore how bureaucratic organizations, such as local governments, are adapting their organizational dynamics in order to operate under the circumstances of an increased openness, transparency and interaction with the external environment.

However, when entering the domain on smart cities, such an issue has not been sufficiently examined yet. In addition, despite this strong emphasis on collaboration, there is currently a critical lack of empirical evidence able to demonstrate what collaborative approaches are most likely to support smart city developments able to effectively boost urban sustainability.

This Special Issue aims to start filling such a knowledge gap by activating engaged conversations across scholars belonging to the global urban research community, which are brought together. On the one hand, the academics that share an interest in the study of the organisational structures and collaborative dynamics shaping urban spaces and their evolution. On the other hand, the community of researchers investigating smart city development and the ICT-driven approach to urban sustainability that such a development can support. This aim will be achieved by adopting an interdisciplinary approach driven by the use of *"organizational theory lenses"* (Arellano-Gault et al., 2013: 145). Empirical and theoretical contributions are invited, including those exposing critical views of the smart city model, which connect organisation studies to urban studies, innovation studies, sociology, political science, governance studies, research on social network and collective behaviour and any other knowledge domain in which research is conducted to produce new insight into how different types of stakeholders should collaborate in order to develop effective strategies for supporting the socio-technical transformational changes enabling smart city development.

Urban environments are relevant sites of organizing vested with the power of fuelling organizational action (Batty, 2013; Kornberger et al., 2017). By bringing the complexity of cities' organization dynamics to the center stage, this Special Issue will extend the organization studies' investigation on the interplay between theorizing and researching in the context of urban sustainability and will offer an improved understanding of how organization theories apply to complex ICT-related urban transformations and the societal challenge of enabling smart city development. The critical reflections and knowledge resulting from this interdisciplinary and collaborative effort will help modern society to organize urban environments for a more sustainable future.

Submissions to this special issue

Authors interested in submitting a contribution are encouraged to focus attention on some of the following research questions. The list is far from being exhaustive and can be freely expanded:

- What forms of inclusion should be adopted to achieve desired open qualities in smart city development strategy-making process? (Dobusch et al., 2017);
- Do smart city governance systems need to combine the decentralizing principles of the crowd, such as transparency, participation and distributed cognition, with the centralizing principles of bureaucracy? (Kornberger et al., 2017; Courpasson, 2000);
- How do the actors frame the smart city transformational process and what are their roles and responsibilities? (Pipan and Porsander, 2000);
- What is the organization that should be charged with the task of leadership? What managerial and leadership techniques can be applied to drive the smart city development strategy forward? (Ford et al., 2017; Grint, 2010);
- To what extent are local governments required to take an orchestration role within the collaborative ecosystem? (Janssen and Estevez, 2013);
- What are the operational and strategic implications that smart city governance systems need to be aware of in order to effectively deal with privacy concerns and controversy arising from data management? (van Zoonen, 2016; Etzion and Aragon-Correa, 2016);
- How do smart city governance systems cope with situations in which public and commercial interests and expectations diverge? (Geiger and Gross, 2018);
- Which approaches to conflict resolution and negotiation have been successfully deployed? (Kirkbride et al., 1991);
- Can organizational ingenuity, i.e. "the ability to create innovative solutions within structural constraints using limited resources and imaginative problem solving", be applied in an urban environment and become a tool for supporting smart city development? (Lampel et al., 2014);
- How organizational actors address the difficulties associated with expressing and sharing their knowledge in order to enable collaboration? (Klievink et al., 2016; Stigliani and Ravasi, 2018);
- Which environmental and contextual factors affect the organizational structure of smart city collaborative ecosystems? (Sila, 2007; Zhang et al., 2012; Olivier, 1992);
- To what extent can the organizational mechanisms controlling animal-related collective activities be an inspiration for governing smart city development strategies? (Pinter-Wallman et al., 2018; Pinter-Wallman et al., 2017; Doyle and Marsh, 2013);
- How are collaborative ecosystems configurated when smart city development attempts are either successful or unable to produce the expected results? (Dyck, 2003; Daskalaki and Kokkinidis, 2017);

- What is the value contribution of open innovation instruments and open government data practices in the field of smart cities? (Rohrbeck et al., 2009; Wang and Lo, 2016; Kornberger et al., 2017);
- To what extent does entering the smart cities era affect the (re)design of organizations' Corporate Social Responsibility practices? (Gond and Nyberg 2017).

Submitting your paper

Please submit your manuscript through the journal's online submission system (http://mc.manuscriptcentral.com/orgstudies). You will need to create a user account if you do not already have one, and you must select the appropriate Special Issue at the "Manuscript Type" option. The Special Issue Editors handle all manuscripts in accordance with the journal's policies and procedures, therefore, they expect authors to follow the journal's submission guidelines (http://journals.sagepub.com/home/oss). You can submit your manuscript for this Special Issue between **15th and 31st of March 2020**.

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