



# Crowdfunding for the development of smart cities

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## KEYWORDS

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**Abstract** In recent years, many cities have experienced new forms of collaboration that have an impact on citizens and entrepreneurs. The integration of this field of study with civic crowdfunding can influence economic growth and community building, which may be beneficial for both policymakers and practitioners alike. Civic crowdfunding is a financial model through which citizens, in collaboration with government and local authorities, fund projects to provide a community service. The development of smart cities is related to civic engagement, empowerment, and participation intended to be part of crowdsourcing or entrepreneurial activities. In this sense, cities play a vital role as drivers of (open) innovation and entrepreneurship. Based on these considerations, this study proposes an explorative and qualitative approach to investigate the civic crowdfunding phenomenon and its ability to promote community development. Our exploratory analysis of six projects highlights the challenges and opportunities of civic crowdfunding for the creation, development, and improvement of more inclusive cities.

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## 1. Setting the scene: Crowds, crowdsourcing, and crowdfunding for the development of smart cities

Social innovation and digitalization of the economy are new sustainable approaches for growing cities and for creating new relationships between citi-

zens, enterprises, and institutions (Bernardino & Santos, 2017). Several scholars have emphasized that the development of cities offers a wide range of opportunities for emerging types of entrepreneurial activity that improve the urban ecosystem (Muñoz & Cohen, 2016). Research in this vein is oriented toward new frameworks that emphasize the role of the technological shift in the construction of smart cities and the involvement of citizens in developing innovative solutions for civic challenges (Brunswick, Bilgram, & Fueller, 2017). Specifically, crowdsourcing—or “the use of IT to outsource any organizational function to a

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strategically defined population of human and non-human actors in the form of an open call” (Kietzmann, 2017, p. 151)—leads to citizen feedback or responses to calls made by a city (Almirall, Lee, & Majchrzak, 2014). Numerous organizations involve crowds through open innovation models in the search for new forms of financing via crowdfunding (Almirall et al., 2014). In urban areas worldwide, civic crowdfunding platforms have emerged to support city projects (Muñoz & Cohen, 2016). The rapid rise of civic crowdfunding has attracted widespread attention, particularly due to its ability to channel citizens’ funds to specific projects in times of constrained public budgets and to encourage collaboration in shaping the future of cities (Davies, 2015). Furthermore, an integration of studies on civic crowdfunding and smart cities can influence economic growth and community building, which is potentially beneficial for policymakers and practitioners alike. This study explores the civic crowdfunding phenomenon in six smart cities and discusses implications that may be useful for the development of civic crowdfunding experiences in other civic and urban areas.

## 2. Understanding smart cities as an innovation ecosystem

The smart city label has spread across the world; nevertheless, there is no universal definition that is shared among academics and policy makers (Selada, 2017). The smart city concept encompasses most areas in which local governments operate, such as transportation and civic entrepreneurship; the use of IT is considered the transformative mechanism that makes these areas ‘smart’ (Almirall et al., 2016). The development of smart cities is related to civic or community engagement and empowerment. Civic projects, which aim to address public concerns, are connected to intangible benefits as well as self-satisfaction derived from contributing to the common good (Charbit & Desmoulins, 2017). Cities play a vital role as drivers for (open) innovation and entrepreneurship (Cohen, Almirall, & Chesbrough, 2016), and in recent years, many cities have witnessed new forms of entrepreneurial ventures. The concept of urban entrepreneurship has attracted increasing attention (Cohen & Muñoz, 2016). Muñoz and Cohen (2016, p. 72) emphasized that “urban entrepreneurship creates solutions resulting in economic and non-economic gains for the urban ecosystem, the public and private sectors, and the entrepreneur. This form of enterprising uses the city as a living laboratory where collaborative, innovative solutions

are developed and tested.” As stated by Johnston and Blenkinsopp (2017, p. 90), “civic entrepreneurship is characterized by regional actors from business, the public sector and the academy stepping outside of their boxes and joining forces to enable entrepreneurial activity and regional development.” The civic entrepreneurial ecosystem is formed by entrepreneurs, civic institutions, and citizens whose three-way interactions form a triangle of civic entrepreneurship (McAnaney, 2015). It is driven by factors such as urbanization, the democratization of innovation, technology, and collaboration (Cohen & Muñoz, 2016; Cohen et al., 2016).

## 3. Crowdfunding for community development: Opportunities and challenges

Interest in crowdfunding has grown rapidly and it has implications for social innovation and community development (Davies & Roberts, 2015). While creating a framework for European crowdfunding, De Buysere, Gajda, Kleverlaan, Marom, and Klaes (2012, p. 9) defined the term:

Crowdfunding can be defined as a collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organizations. This is usually done via or with the help of the internet. Individual projects and business are financed with small contributions from a large number of individuals, allowing innovators, entrepreneurs and business owners.

This innovative phenomenon has begun to offer several opportunities, especially when applied to projects that provide services to communities (civic projects). Civic crowdfunding is an excellent example of an alternative financial instrument (Klein, Siegel, Wilson, & Wright, 2014) with great potential for entrepreneurial and community development. Civic entrepreneurship stands alongside social and business entrepreneurship and is a vital part in the process of renewing the public sector. Therefore, entrepreneurs who develop local initiatives can be referred to as civic entrepreneurs because their economic action is shaped by a model of society based on sustainable development (Laville, 2016). Various challenges and opportunities are related to urban-focused entrepreneurship, which has emerged as the driving force behind the surge of city innovation (Muñoz & Cohen, 2016) and has compelled researchers and practitioners to reframe

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