



Importance of *living labs* in urban Entrepreneurship: A Portuguese case study



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ABSTRACT

From a network perspective, the main objective of this study is to analyse how *living labs* contribute to promoting urban entrepreneurship in towns and cities and their sustainability. To achieve this aim, a qualitative research approach was adopted, specifically an exploratory case study of a *living lab* in a Portuguese town. As data collecting instruments, semi-structured interviews were held with key people in charge of this incubator, the incubated firms, public partners and citizens/people. Additional documentation was obtained for data triangulation in content analysis. The empirical evidence obtained leads to concluding on the need to continue study of urban entrepreneurship and its connection with *living labs* in towns. The results also showed that *living labs* are the “cradle” for this type of entrepreneurship and a vehicle for economic and social development and sustainability. From the evidence obtained, we were able to detect three units/factors of *living labs* to promote urban entrepreneurship: (1) open network, (2) entrepreneurship and (3) benefits/results. The insights gained from this explorative case study have several theoretical and practical implications.

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1. Introduction

A network consists of a set of interlinked actors (Echebarria et al., 2016), in which these actors are independent but oriented towards a common goal and producing a collective result (Alter and Hage, 1993). One of the purposes of business networks is to provide benefits for the actors involved, through partnerships, innovation and active participation by all parties. *Living labs* have emerged as an open business network based on innovation and entrepreneurship (Nyström et al., 2014). These authors define *living labs* as physical regions, virtual realities or spaces of interaction, where all stakeholders join together to create, develop, test and implement new products and services in a real life context. This concept is interlinked with the concept of a smart city, which can be understood as a community, in which citizens, firms, institutions and public bodies (for example, local authorities) collaborate with each other to achieve an integrated and efficient system (the existence of a common commitment), aiming to provide quality of life (Snow et al., 2016).

This context gives rise to the concept of urban entrepreneurship, defined here as a source of opportunities, to incorporate and develop entrepreneurial and innovative ideas linked to sustainable regional development (Cohen and Munoz, 2015); something which occurs in an urban space and/or where products and services are provided, involving legal, social and logistic questions, which leads to the concept of business networks (Osorio and Cordero, 2014).

Urban areas provide many entrepreneurship opportunities, finding an almost direct inter-relationship between entrepreneurship, location and urban growth (Glaeser et al., 2010; Freire-Gibb and Nielsen, 2013). Then again, Feldman (2001) concludes that entrepreneurship is a regional phenomenon, and for Freire-Gibb and Nielsen (2013), geographical location is a pillar for entrepreneurship, where population density is suggested in various studies as a factor maximizing individuals' willingness to initiate business (Shane et al., 2003; Sternberg, 2009). Also due to the rapid urban growth witnessed, local authorities face difficulties in ensuring high levels of infrastructure and quality of life, which in itself is a challenge for these organisations (Cohen and Munoz, 2015). Urban entrepreneurship is an emerging phenomenon, but its borders still require some definition (Muñoz and Cohen, 2017).

Despite the existence of many studies on entrepreneurship at the country level, there is a shortage of studies at the city level

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(Glaeser and Ponzetto, 2014). Audretsch and Belitski (2013) and Florida et al. (2007) note that entrepreneurship at the micro (regional) level is a driver of creativity, technology, human capital and knowledge. Then again, Cohen and Munoz (2015) consider that urban entrepreneurship has been neglected from a management perspective. There is a shortage of studies interlinking *living labs* with urban entrepreneurship and discussing the empirical result of this relationship (Almirall and Wareham, 2011; Dekkers, 2011; Eriksson et al., 2005).

In these circumstances, given the economic and social importance of *living labs* and urban entrepreneurship phenomena for sustainable urbanization and to fill these gaps in the literature, this study aims to answer the following research question from a network perspective: *Do living labs contribute to promoting urban entrepreneurship in cities where they are implanted?* To answer this question, a case study is presented— the Cova da Beira *living lab*—implemented in a Portuguese town. Therefore, this study's contribution lies in showing how *living labs* are an important tool to promote urban entrepreneurship in cities and towns. More precisely, we outline which factors should be considered in *living labs* to promote urban entrepreneurship in cities and their sustainability.

2. Literature review

2.1. Living labs as networks

Tripartite (public-private-people) collaboration lets cities and local authorities implement networks, favouring the integration of existing resources with those provided by other network actors, allowing them to satisfy their residents' needs (Echebarria et al., 2016). Highlighted as benefits of these territorial/regional networks are greater citizen participation, elaboration of a medium and long-term regional/local plan, and sharing risks and knowledge, as all are working towards a common objective (Davies, 2002) and information flows, and tangible and intangible resources are common to all (Furmankiewicz et al., 2014). However, the success of networks at the regional level depends on the intensity of relationships between their actors and on their internal structure, synergies and degree of interconnection (Dawson et al., 2014; Furmankiewicz et al., 2014).

As a consequence of increasing urban transformations, all infrastructure tends to be concentrated around cities (Neuens et al., 2013), but they must be sustainable, and it is local authorities' responsibility to ensure that sustainability (Burström and Korhonen, 2001). Sustainability implies that continuous and dynamic interrelations are established between all stakeholders — networks (Geels and Schot, 2007). In this context, *living labs* are part of these dynamic networks, as a new way to organise innovation activities, and face opportunities as well as socio-economic and technological challenges (Leminen, 2015). *Living labs* are intermediaries in the process of open innovation (Baltes and Gard, 2016). These are open environments of innovation in real life contexts, where innovation is oriented towards the user and completely integrated in the process of co-creating new services, products and social infrastructure in a regional context, as a way to capture/attract/benefit from networks and the existing business fabric (Santoro and Conte, 2009). These authors also consider that *living labs* can be implemented locally through exploiting synergies between local authorities and regional entities.

The highly positive impact of innovation arises from networks that include different types of partners, among them *living labs* (Nieto and Santamaría, 2007; Zeng et al., 2010). In the same line of thought, Chesbrough and Crowther (2006) argue that *living labs* should be studied as networks, since the innovation is open and

participants collaborate voluntarily, albeit according to defined rules. The involvement of all actors is important, as this is the nucleus of the *living lab* (Almirall and Wareham, 2008), in which public-private-people partnerships (4Ps) are commonly used (Walravens, 2012) simultaneously with citizens' involvement (Veekman and Graaf, 2015).

According to the 4P model, *living labs* are defined as physical areas or virtual realities, where stakeholders form public-private-people partnerships (Westerlund and Leminen, 2011) and users act as sources of information and creativity (Nyström et al., 2014). Specifically, and according to this model, local authorities gather all the necessary conditions in terms of the various resources to create this synergy all along the value chain implicit in the values inherent to *living labs*, originating their sustainability and success at the regional level (Santoro and Conte, 2009).

Generically, four standards characterise *living labs*, namely, reciprocity, multiplicity, temporality and competences (Nyström et al., 2014). These authors consider that these standards stimulate individuals' personal motivations to engage in processes implicit in *living labs* and thereby contribute to their success. However, as with any organisation, the implantation of *living labs* includes relevant steps and aspects that must be considered, such as active collaboration, the definition of rules, operational responsibilities and scenarios, establishing professional groups to support projects, so that there is maximization of knowledge and a greater impact on the socio-economic context (Santoro and Conte, 2009). The configuration of a *living lab*, as an ecosystem, must be based on networks (partnerships). Therefore, *living labs* can become a platform for cities, since they provide a vehicle for entrepreneurial citizens (Cohen et al., 2016).

2.2. Urban entrepreneurship

Creativity and innovation contribute to urban development, which reflects entrepreneurial activities, namely business creation at the regional level (Audretsch et al., 2015). This emergence of innovative ideas leads to entrepreneurial initiatives and commitment by all parties involved, whether public, private or civic (Johnston and Blenkinsopp, 2017). This commitment leads to implementation of the *living lab*, which is an instrument of regional economic growth, and measures have been taken to increase entrepreneurship at the local and regional level. Entrepreneurship also aims to combine resources and people (public and private) in order to obtain effective results in social and economic terms, through developing regional business, social and academic activities (Lundqvist and Middleton, 2010).

With entrepreneurship being a driver of economic growth in a country, region or city, European urban policy has encouraged the growth of entrepreneurial initiatives (Szerb et al., 2013), particularly through incubators (Audretsch and Fritsch, 2002), the creation of infrastructure, financial incentives (Bosma and Sternberg, 2014) and the introduction of new regulations (Audretsch et al., 2015). Muñoz and Cohen (2017) show that urban entrepreneurship creates solutions that result in economic benefits for the urban ecosystem, society and entrepreneurship. These authors also conclude that this form of entrepreneurship uses the city as a *living lab*, where collaboration and innovation are fundamental, i.e., the city is the host and destination of urban entrepreneurship. For Lundqvist and Middleton (2010), urban entrepreneurship is necessary for communities and cities to continue growing (Osorio and Cordero, 2014). Indeed, urban entrepreneurship can be directed to a country, city or neighbourhood (Cohen and Munoz, 2015).

In this context, the core of the 4P Model is the urban entrepreneur (individual or collective), who orients the whole system.

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