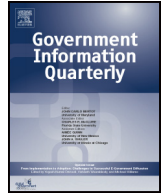




Contents lists available at ScienceDirect

## Government Information Quarterly

journal homepage: [www.elsevier.com/locate/govinf](http://www.elsevier.com/locate/govinf)

## Living labs: Implementing open innovation in the public sector

Mila Gascó, PhD.

Center for Technology in Government & Rockefeller College of Public Affairs and Policy - University at Albany, SUNY, 187 Wolf Road, Albany, NY12205, United States  
 ESADEgov - Center for Public Governance, ESADE Business and Law School - Ramon Llull University, Av. Pedralbes 60-62, 08034 Barcelona, Spain

### ARTICLE INFO

#### Article history:

Received 30 November 2015  
 Received in revised form 10 August 2016  
 Accepted 13 September 2016  
 Available online xxxx

#### Keywords:

Open innovation  
 Collaborative innovation  
 Open innovation intermediaries  
 Living labs  
 Fab labs  
 Co-creation  
 Co-production

### ABSTRACT

Public sector innovation is an important issue in the agenda of policymakers and academics but there is a need for a change of perspective, one that promotes a more open model of innovating, which takes advantage of the possibilities offered by collaboration between citizens, entrepreneurs and civil society as well as of new emerging technologies. Living labs are environments that can support public open innovation processes. This article makes a practical contribution to understand the role of living labs as intermediaries of public open innovation. The analysis focuses on the dynamics of these innovation intermediaries, their outcomes, and their main challenges. In particular, it adopts a qualitative approach (fourteen semi-structured interviews and one focus group were conducted) in order to analyze two living labs: Citilab in the city of Cornellà and the network of fab athenaeums (public fab labs) in the city of Barcelona, both in Spain. After a thorough analysis of the attributes of these living labs, the article concludes that 1) living labs provide the opportunity for public agencies to meet with private sector organizations and thus function as innovation intermediaries, 2) implementing an open innovation perspective is considered more important than obtaining specific innovation results, and 3) scalability and sustainability are the main problems living labs encounter as open innovation intermediaries.

© 2016 Elsevier Inc. All rights reserved.

### 1. Introduction

Innovation is a recurring theme in public administration. It has been used to frame the transformation of public sector organizations in order to enhance the effectiveness, efficiency, and legitimacy of their public value creation processes (Bekkers, Edelenbos, & Steijn, 2011). As needs of citizens are changing, and technology is advancing, there is an immense need for innovation in the public sector. On one hand, citizens have higher expectations about public services and government interventions. On the other, public managers and elected politicians have growing ambitions concerning improved public governance mechanisms and tighter control. Finally, public tasks have become more and more complex and have developed into “tangled problems” or even “wicked problems” – problems that are often too difficult to be solved by a single entity or include many different layers of complexity (Sørensen & Torfing, 2011, 2010).

Recently, government organizations have started to adopt open innovation approaches to provide an additional gateway for innovation creation that allows citizens to suggest solutions to public management problems (Mergel, 2015).

Open innovation is a concept that was originally adopted in the private sector. According to Chesbrough (2006), it has to do with “the use of purposive inflows and outflows of knowledge to accelerate internal

innovation, and expand the markets for external use of innovation, respectively” (p. 1). Open innovation is, therefore, about inviting problem solvers help reinvent products, services, or even business models that might contribute to the survival of the organization (Chesbrough, 2006, 2003).

However, how open innovation can become a true and effective tool for governments is still an underexplored topic (Bakici, Almirall, & Wareham, 2013; Feller, Finnegan, & Nilsson, 2011; Mergel, 2015). The few works that have tackled it have mainly addressed one main question: how can a successful private sector practice be introduced in public sector organizations? They have analyzed drivers of adoption, the implementation process, the role of agents, and results and impact (among other, Bakici et al., 2013; Bommert, 2010; Dias & Escoval, 2012; Feller et al., 2011; Hennala, Parjanen, & Uotila, 2011; Hilgers & Ihl, 2010; Lee, Hwang, & Choi, 2012; Mergel, 2015, 2013; Mergel & Desouza, 2013).

Of particular importance is the role of agents as (open) innovation intermediaries. Innovation intermediaries have been defined as external organizations and individuals that support companies in their innovative activities by gathering, developing, controlling and disseminating external knowledge by providing various resources and regulating the innovation networks (Bakici et al., 2013; Howells, 2006). The literature reveals a wide variety of innovation intermediaries (Howells, 2006) that range from public and private incubators to technological top institutes (Bakici et al., 2013). Living labs have also been considered an important open innovation intermediary (Almirall & Wareham, 2011, 2008; Bakici et al., 2013).

E-mail address: [mgasco@ctg.albany.edu](mailto:mgasco@ctg.albany.edu).

Despite the lack of a shared and coherent definition (Bergvall-Kåreborn, Ihlström Eriksson, Ståhlbröst, & Svensson, 2009), living labs can be understood as settings or environments for open innovation, which offer a collaborative platform for research, development, and experimentation in real-life contexts, based on specific methodologies and tools, and implemented through specific innovation projects and community-building activities (Schaffers & Turkama, 2012). Living labs are driven by two main ideas: 1) involving users as co-creators of innovation outcomes on equal grounds with the rest of participants and 2) experimentation in real-world settings (Almirall, Lee, & Wareham, 2012).

This paper looks deeply into the concept of living labs as public open innovation intermediaries by analyzing two case studies: Citilab in the city of Cornellà and the network of public fab labs in the city of Barcelona, both in Spain. The three main research questions this paper answers include: 1) how do living labs function as public open innovation intermediaries?, 2) what are some of the observable outcomes in terms of public innovation?, and 3) what are the main challenges encountered by living labs as open innovation intermediaries?

The remainder of this paper is organized as follows. In the next section, we introduce the concept of living labs as public open innovation intermediaries. Next, the data and methods to collect the information are explained. Subsequently, we present and discuss the results of the fieldwork. Finally, we describe the theoretical and practical implications of our findings and answer our research questions.

## 2. Living labs as open innovation intermediaries in the public sector

Simply put, innovation intermediaries can be defined as organizations involved in supporting the innovation process (Howells, 2006). The literature on private open innovation has widely emphasized the role of intermediaries in bridging and coordinating a firm's innovation network (among other, Amico-Roxas, Piroli, & Sorrentino, 2011; Chesbrough, 2006; Howells, 2006; Winch & Courtney, 2007).

López-Vega (2012) indicates that innovation intermediaries have, indeed, a variety of profiles and functions. After a thorough literature review, the author concludes that these functions might be grouped under three general headings: connection (for example, linking innovation providers and seekers or providing interfaces between users and firms), collaboration and support (for example, mobilizing university research, integrating knowledge from stakeholders, or supporting commercialization), and provision of technological services (for example, testing and training or assessing technology). As Chesbrough (2006) mentions, intermediaries can operate in different ways: some function as agents (representing one side of a transaction) and others as brokers (representing both sides of a transaction).

Innovation consultants, science and technology parks, incubators, and regional innovation agencies have been considered the most prevalent types of innovation intermediaries (Howells, 2006; López-Vega, 2012). Most of these intermediaries have collaborated with private rather than public organizations (Bakici et al., 2013). Nevertheless, in the last years, a new open innovation intermediary has emerged in Europe: living labs. Living labs are intermediaries that focus on the mediation between users, public, or private organizations, capturing and codifying users insights in real-life environments (Almirall & Wareham, 2011, 2008; Cleland et al., 2012; Fosltad, 2008).

Traditionally, living labs have focused on supporting companies and creating an ecosystem of innovation that benefits both private companies and public organizations. However, lately, they have also emphasized the need to open innovation processes to citizens (Serra, 2014). According to Manzini and Staszowski (2013), “the experiments that these spaces facilitate open two symmetrical opportunities. One is the possibility for bottom-up social innovations to move faster in their trajectory from the first ‘heroic’ stage (when social inventions are still prototypes) to the following stages when more mature enterprises are

created and, if necessary, when enabling products and services are conceived and enhanced. The other opportunity is for public agencies to meet with people and other organizations and experiment together with new policies and governance tools” (p. vi). As a result, living labs can be considered active organizations in the promotion of innovations in the public sector.

Living labs concur with the open innovation paradigm in drawing on the notion of external ideas as a resource for innovation (Bergvall-Kåreborn et al., 2009; Katzy & Mensik, 2007). In living labs, different stakeholders interact and collaborate in innovation processes using a methodology based on knowledge exchange, co-creation/co-production techniques, and participatory methods (Baccarne, Mechant, & Schuurman, 2014; Vicini, Bellini, & Sanna, 2012).

On one hand, living labs are conceived as a strategic opportunity to improve the creation of multistakeholder partnerships with citizens at the center. Thus, they have often been defined as public, private and people partnerships (PPPP) for user-driven open innovation (Nesti, 2015). Along the same lines, Cleland, Mulvenna, Galbraith, Wallace, and Martin (2010) state that living labs are increasingly well-established innovation intermediaries that support the implementation of the quadruple helix model, an innovation approach based on cooperation between firms, universities, public organizations and users (Arnkil, Järvensivu, Koski, & Piirainen, 2010).

On the other, living labs strongly rely on the concepts of co-creation and co-production (Fosltad, 2008; Nesti, 2015). Ballon, Pierson, and Delaere (2005), for instance, refer to a living lab as an experimentation environment in which technology is given shape in real life contexts and in which end-users are considered co-producers. CoreLabs (2007) considers a living lab a system enabling people, users/buyers of services and products, to take active roles as contributors and co-creators in the research, development and innovation process. What all these and other definitions share is the idea that living labs are environments where the active involvement of stakeholders, and particularly of users, in the process of producing innovation takes place.

Despite previous works, still, there is not enough research that specifically refers to living labs as open innovation intermediaries and explores their specific role in innovation processes in the public sector (Bakici et al., 2013). It is therefore a legitimate and interesting task to undertake to understand their dynamics and contribution to public innovation.

## 3. Research design: data collection and analysis

Given the exploratory nature of the research, this article adopts a qualitative approach to understand how living labs function as public open innovation intermediaries (Yin, 2009). Two living labs were selected on the basis of their relevance and accessibility<sup>1</sup>: Citilab in the city of Cornellà and the network of public fab labs (fab athenaeums) in the city of Barcelona, both in Spain.<sup>2</sup> On one hand, Citilab was the first living lab in Spain and has become one of the most important living labs in Europe, formally and explicitly recognized as such. On the other, the public network of fab labs is the only successful case of fab labs funded and run by a city council. It is, therefore, a worldwide pioneering initiative. As a result, both living labs can be considered as innovations themselves in their local/national contexts (actually, the network of

<sup>1</sup> Research access was straightforward as a result of the past and current links of the researcher and her institution with both the Barcelona City Council and the Cornellà City Council.

<sup>2</sup> A fab lab (fabrication laboratory) is a small-scale workshop offering (personal) digital fabrication. The fab lab program began back in 2001 as a collaborative initiative between the Grassroots Invention Group and the Center for Bits and Atoms at the Media Lab in the Massachusetts Institute of Technology. Nowadays there are fab labs all around the world.

Download English Version:

<https://daneshyari.com/en/article/5110668>

Download Persian Version:

<https://daneshyari.com/article/5110668>

[Daneshyari.com](https://daneshyari.com)