Title

Do systemic collaboration and network governance matter? Living Labs beyond user-driven innovation

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Abstract

Although the emergence and fast expansion of Living Labs (LLs) around the world, little research has been conducted on the concept of LL from the perspective of both technological and social innovation and network governance. This paper aims at presenting a critical literature review on the definitions of LL and other innovation labs experiments involving cross-border collaboration between private, public, and third sectors. We developed and applied an analytical framework with several dimensions (context and aims, innovation types, stakeholders, partnership models, supporting, institutional environments and network governance models). We present and discuss the results obtained with a sample of 120 LLs study cases in different countries.

Keywords

Living Lab, private-public partnerships, network governance, technological and social innovation, inclusive innovation, systemic collaboration.

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Background

Innovation is extensively deemed to be the key driver of economic development and the principal tool for coping with major global environmental and socio-economic challenges (Pérez, 2010; OECD, 2012; Dahlman and Gaudin, 2012). Particularly in the European countries the *Europe 2020 Strategy* stressed the need to 're-focus R&D and innovation policy on the challenges facing our society' (EC, 2010a, p. 10). The *Europe 2020 Flagship Initiative Innovation Union* (EC, 2010b) emphasizes the role of both social and technological innovation as an opportunity to shape Europe's response to the current social realities (healthcare transformation, urban renewal, climate change, etc.). New innovation practices beyond the focus on technological innovation -such as 'social' innovation, 'grassroots' innovation, 'green' innovation, 'sustainable' innovation, 'frugal' innovation, 'inclusive' innovation- are increasingly taking up the political agenda and calls for enable effective collaboration across complex social systems in a dialogue with all actors (scientific and technological research, business, policy makers, Non-Government Organizations, civil society, among others). Andrew and Klein (2010) maintain that the fundamental change that our economies and societies are undergoing requires major adaptations and changes in our patterns of production and consumption. Generation of products and services is obviously recognized by the technological innovation definition but it is also present in social and inclusive innovations. Thus Hubert (2010, p. 7) sets out social innovations as 'new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. They are innovations that are not only good for society but also enhance society's capacity to act'. The notion of 'inclusive innovation' is increasingly being used in connection with development policy and strategy where inclusion refers both to sharing the amelioration of material living conditions and to a broader participation in processes of change (Johnson and Dahl, 2012). Inclusive innovation is any innovation that leads to affordable access of quality goods and services creating livelihood opportunities for the excluded population -'the bottom of the pyramid'- which 'supposed to incorporate innovation *for* the poor as well as innovation *by* the poor' with the active participation of grass root entrepreneurs (Johnson and Dahl, 2012, p. 41). Innovation (technological, organizational, financial, social …) may be stimulated by building stronger links and interactive learning spaces where stakeholders from different backgrounds (expertise

and non-expertise) can work together to tackle and find solutions to current societal challenges.

In this sense 'Living Labs' (LLs) are increasingly call the attention of practitioners, researchers and policymakers, springing as collaborative spaces and/or social innovation experiments around the world (Eriksson, Niitamo and Kulkki, 2005; FORA, 2005; EU, 2010; Tams and Wadhawan, 2012). More recently LLs are seen as useful instruments to detect community needs, improve local development and support and integrate technological and social innovations in policies and local governance processes (Cunningham, Herselman and Cunningham, 2012; Edwards, Matti and Alcántara, 2012).

The application of LLs to real-life settings and 'real' experimentation emerged in Europe around 2005 based on the Nordic countries' experience of involving users. Under the ICT policy programmes the European Commission supports several projects with strong elements of user-centric open innovation and LL methodologies. The principal initiative is the European Network of Living Labs (ENoLL), established in 2006 including 19 LLs in 15 different European countries (the current number in 2012 after the 6th Wave of Call for New members, is around 300). The potential and opportunities generated by the collaborations of public-private-people partnerships (PPPP) from ENoLL has expanded LLs to regions and innovation systems beyond the European frontiers. Several scholars have also presented definitions where the concept of Living Labs is focused in the 'user-centric approach' and can be seen interchangeably as a methodology (Eriksson et al., 2005; Schaffers and Turkama, 2012), a system or 'open innovation ecosystem', experimentation environment or milieu (Ballon et al., 2005; Seppa et al., 2007; Følstad, 2008; Bergvall-Kåreborn and Ståhlbröst, 2009) and/or a systemic innovation approach (Feurstein et al., 2008; Cunningham, Herselman, and Cunningham, 2012). Despite the emergence and fast expansion of Living Labs (LLs) around the world, little research has been conducted on the concept of LL from the perspective of both technological and social innovation and network governance. In this paper we attempt to provide a meta-analysis of the LL concept, differentiating it of others such as TEPs (Test and Experimentation Platforms) and Social Spaces of Research and Innovation (SSRI), providing a comparative examination of several dimensions in a sample of LLs (N= 120). In particular, we focus in the following questions:

- What is the meaning of the term Living Lab and which are the differences with other 'innovation' labs experiments, such as TEPs, SSRI (Social Spaces of Research and Innovation), etc.?

- Do Living Labs function as an 'incubator' for community-driven innovation and how is co-creation with people enhanced?

- How do LLs contribute to systemic collaboration and network governance?

- What tools and methodologies are implemented in LLs for supporting efforts for 'scaffolding' endeavors that accomplish social and inclusive innovation? (Volckmann (2010) described "scaffolding" as a technique that involves people in activities that 'normally are out of reach' by promoting collaboration and exchanges across organizational or community boundaries).

Analytical framework and Methodology

We performed a search of scholarly publications between the years 2001-2012 taking into account scientific journals, conference papers proceedings, project and policy reports and books. The articles were gathered using Google scholar and Web of Knowledge, using the keywords 'living lab', 'innovation lab', living lab approach', 'living laboratory' and 'living innovation platform'. We adapted and applied the taxonomy of Ballon et al. (2005) who distinguish between environments for testing and environments aimed at design and development, the maturity of the technologies involved, and the degree of openness and user involvement (Fig. 1).
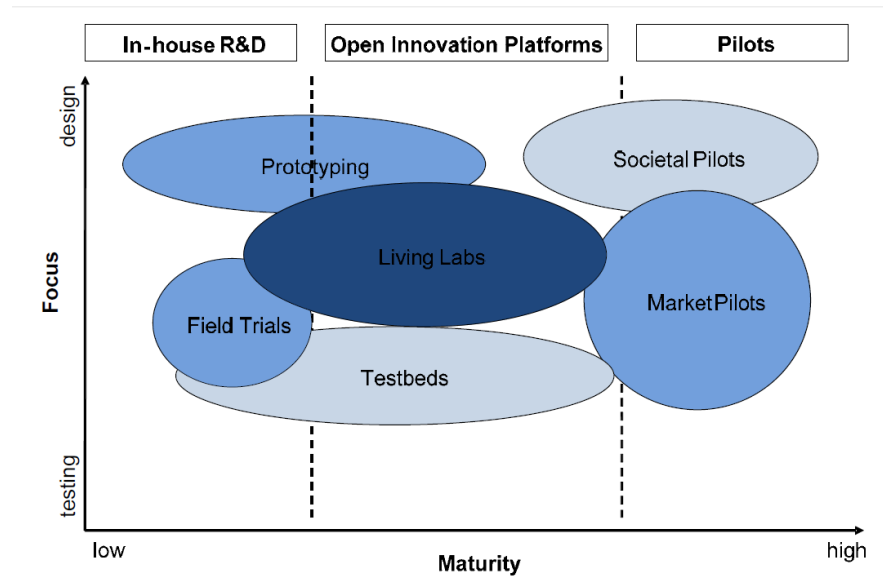
Fig. 1 Test and Experimentation Platform typology (Ballon et al., 2005, p. 3)

For our analytical framework we also consider other research literature contributions including LLs evaluation frameworks such as Outcome Mapping (OM) methodology (Earl, Carden and Smutlyo, 2001), PACE (Vontas and Protogeros, 2009), and the five key dimensions included in the LL definition by ENoLL's (2011). They comprise aspects related to innovation settings ('open innovation environment'), operating environments ('real-life settings'), affecting innovation processes ('user-driven innovation' and 'cocreation process'), user engagement, and outcomes expected.

Preliminary Results

The findings suggest the existence of different models of LLs and other community-driven innovation labs which coexist with the traditional approach to LLs related to R&D user-centric methodologies where innovations (primarily technological) are created and verified in collaborative, multi-contextual real-world settings. However, the thrust of ICT-focused LLs has been upon technology-driven product and service development for commercial and profit purposes rather than tools that are conceived as part of a broader social development or social change agenda. In accordance with previous research, we detected different models of LLs such as government-driven

partnership, university-driven research, and open network for innovative business opportunities. The majority of LLs focused on end-customer and user validation in testing and experimentation, and not in co-generation of innovations (they are more user-driven than community-driven). We found a lack of governance structures and deficits in the citizen engagement in governance processes, between the 'invited' spaces of 'the political machinery of governance' and the spaces of participation and commitment of social movements and community groups.

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