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Long Term Sustainability for Living Labs: Drivers and Barriers

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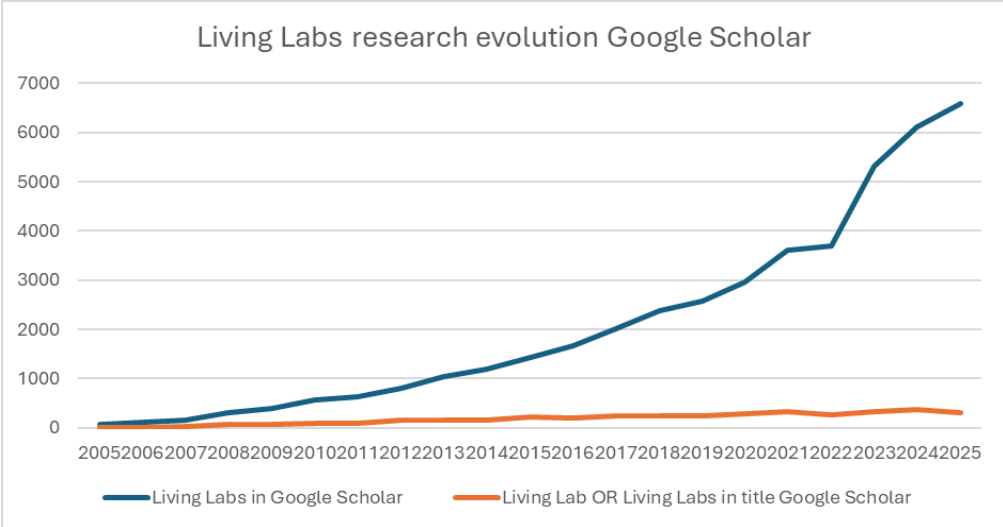
Abstract: Although Living Labs have become increasingly popular, there are also high rates of mortality among certified LLs. This research-in-progress paper investigates the factors that contribute to the long-term success, as well as the barriers that are linked to the discontinuation. To this end, we investigated a cohort of 37 LLs that underwent ENoLL's certification process in 2015. We used a mixed method approach combining document analysis, expert evaluations and in-depth interviews.

Based on the first findings, we discovered that the most important factors can be linked to the six general LL characteristics: orchestration, co-creation, multi-stakeholder, multi-method, real-life experimentation and user-centricity. Moreover, the long(er) running LLs show a high degree of change and seem to be successful in reinventing themselves based on the changing environment. The LLs that do not succeed in surviving were the most affected by changes in ownership, changes in location and changes in business model.

Keywords: Living Labs; Open Innovation; User Innovation; Sustainability; Viability; Co-creation; Drivers; Barriers.

1 Introduction

Nowadays, Living Labs have become increasingly popular, in practice as well as in academic literature. In 2026, for the first time the European Network of Living Labs (ENoLL) had over 200 active members with the total number of historically certified Living Labs surpassing 600. This peak can also be witnessed in terms of topical and geographical diversity, with Living Labs from over 40 countries and from all continents represented as active members. However, this also means that more than 2/3 of all historically certified Living Labs is no longer an active member. This is a large increase when compared to previous research from a decade ago which concluded that at lease 40% of the historically labelled Living Labs were inactive (Schuurman, 2015). When looking at the academic literature, we can see a major increase in the number of times Living Labs are mentioned in papers. Year by year, this number is increasing, with 2024 and 2025 resulting in more than 6.000 papers where Living Labs are mentioned in the text. However, when plotting this against the number of papers that have Living Labs as the main topic, the number seems to stabilize around 300 per year (see also Schuurman et al., 2025).



This indicates an exploding popularity of the concept of Living Labs which is not backed up by a growing body of literature with Living Labs as main focus. This popularity translates into an all-time high of active certified Living Lab organizations, but also indicates issues with the viability of Living Lab organisations as more than 2/3 of all historically certified Living Labs are no longer active members. Therefore, within the research reported in this research-in-progress paper, we want to look into the factors that facilitate the long-term survival and success of Living Lab organisations, and at the same time analyse which elements are linked to Living Lab organisations that stop being active as Living Labs.

2 Literature review

Living Labs have emerged as dynamic open innovation intermediaries firmly rooted in user innovation (Schuurman, 2015). Based on iterative feedback processes, they provide real-life environments for testing and co-creating innovations orchestrating stakeholder networks, aimed at generating sustainable impact and having the ability to play a pivotal role in innovation ecosystems (Fauth et al., 2024). The concept of Living Labs evolved from the notion of long-term field experiments (80's and 90's), over lab infrastructures aimed at testing innovations in settings aimed at recreating real-life conditions (90's and 00's), towards an innovation approach based on user co-creation and real-life experimentation (00's and 10's) (Ballon & Schuurman, 2015). Living Labs are regarded as complex phenomena where three analytical levels can be distinguished: the organizational level, the project level and the individual user interactions level (Schuurman, 2015). In our research, we focus primarily on the organisational layer. Moreover, Living Labs are characterised by six defining elements: active user involvement, co-creation, real-life environment, multi-stakeholder, multi-method, and orchestration. These characteristics have been translated into an evaluation framework

that is being used by the European Network of Living Labs (ENoLL) to certify Living Labs via independent experts (Vervoort et al., 2024).

Chapter	*Criteria*
Strategy	Governance
	Business Model
	Culture & Collaboration
Operations	Human Resources
	Operations
Openness	Equipment & Infrastructure
	Innovation partnerships, projects & processes
	Ownership of results
Users & reality	User centricity
	Lifecycle & real-life
	Tools & methods
Value & Impact	(Co-created) values
	Impact(s)
Stability & Harmonization	Stability
	Harmonization & scale-up

However, multiple studies reported a lack of clear insights into value creation and impact assessment in Living Labs (Paskaleva & Cooper, 2021; Schuurman et al., 2026). Moreover, there is only a fragmented view on success criteria for Living Labs' long term sustainability, nor are there more quantitative studies looking into drivers and barriers for Living Lab success. One study by Valkokari et al. (2024) identified four factors that would contribute to a Living Lab's long term success: a shared vision between the participating stakeholders, interaction between the actors, the actors, resources and activities in the Living Lab, and the operational model and supporting structures. As these elements all link with the main Living Lab characteristics, we summarize the research linked to them and formulate propositions regarding drivers and barriers.

Multi-stakeholder

In the literature, there is consensus that the initiating actor has a crucial role in the outlook and configuration of the Living Lab (Schomberg et al., 2026). John (2024) notes that the forms of interaction that emerge within the Living Lab often reflect existing

power asymmetries between actors which has important consequences for the outcomes of Living Lab projects and activities.

Levén and Holmström (2008) proposed a model that includes researchers, end-users and developers. As suggested by Dutilleul et al. (2010, cf. supra), the management role should be played by a public stakeholder with a 'neutral' attitude in terms of business. Therefore, we can increase the number of stakeholders by adding 'authorities' or 'public organizations'. However, the most complete account of stakeholder roles in Living Labs, building further on these previous works and based on an analysis of 26 Living Labs from Finland, South-Africa, Spain and Sweden, comes from Leminen et al. (2012). They propose four different Living Lab stakeholders based on their role: utilizers, enablers, providers and users. In this typology academic researchers are considered providers because they provide the necessary expertise on user research. Other research such as Levén and Holmström (2008), but also the Triple and Quadruple Helix literature, stresses the importance of universities as a distinct actor in the innovation ecosystem (Perkmann & Walsh, 2007; Etzkowitz, 2008; Arnkil et al., 2010; Cosgrave et al., 2013). Moreover, the contribution of academia is not limited to user research, as it can also include research on technical topics related to the focus of the Living Lab, or policy and business research. Therefore, Schuurman (2015) distinguishes researchers as a separate type of actor within the Living Lab constellation. In a very recent publication, Müller (2026) identifies a new type of Living Lab, next to user-, provider-, utiliser- and enabler-driven Living Labs: network-driven Living Labs. These Living Labs are characterised by shared leadership and a less hierarchical operational model.

From this overview, we expect that the initiating and/or leading actor(s) of a Living Lab plays a significant role in the eventual (long-term) success of the organisation.

Orchestration

As Living Labs tend to encompass multiple stakeholders and are often regarded as (open innovation) networks or even (innovation) ecosystems, it is essential that they are able to orchestrate activities with regards to joint and shared value creation and value capture. This is captured in an emerging stream of literature that looks at Living Labs from the business model perspective (Rits et al., 2015). We can assume that Living Labs who are better able to orchestrate activities and interactions between the participating actors and stakeholders have a better chance at success. This is something else than the fact that Living Labs are regarded as beneficial for exploring the feasibility of a business model of complex solutions in real-life contexts (Almirall and Wareham, 2011).

Therefore we assume that the success of Living Labs is heavily dependent on their capability to find a viable and sustainable business model themselves, and in line with the literature on business models, of their capability to adapt their business model over time according to changing internal and external circumstances.

Multi-method

A multi-method approach as characteristic of Living Labs is linked the proposed difference between what users say and what users do. By combining multiple methods, 'saying' and 'doing' are investigated. This characteristic is also linked to the 'real life' aspect of Living Labs and implies capturing 'the uncontrollable aspects of real-life environments' (Coorevits & Jacobs, 2017). In the literature, openness to unexpected outcomes is often mentioned as a specific characteristic of Living Labs and even as a

potential success factor (Bergmann et al., 2021). In the literature on Real World Laboratories, more emphasis is put on the combination of scientific and societal goals, which also links with the multi-method characteristic of Living Labs. Being able to combine scientific and societal goals and enabling a collaboration culture between science and society, meanwhile addressing the needs of practitioners, are all regarded as success factors (Bergmann et al., 2021).

Therefore, we expect that a diverse toolbox of methods and finding a balance between academic, societal and business goals.

Real-life

Literature suggest that place and space play a significant role in the outcomes and eventual success of Living Labs (Bergvall-Kåreborn et al., 2015 & van Steenbergen & Frantzeskaki, 2018). Being attached to concrete sites and adopting an experimental mindset are also considered as success factors (Bergmann et al., 2021).

Therefore we would expect that the availability of real-life and real-world testing and experimentation sites would increase the chances for success of a Living Lab organisation. This would also be the case for the degree to which a Living Lab is locally embedded.

Co-creation

Co-creation is regarded as the dominant mode in Living Labs. There are multiple positive effects associated with co-creation, such as sense of ownership, more desirable outcomes and intrinsic motivation (Puerari et al., 2018). However, there are multiple issues and challenges linked to (sustained) co-creation, such as finding (the right) users, drop-outs during the process and motivation to participate (Habibipour et al., 2018).

Therefore we assume that Living Labs capable of attracting and motivating relevant user groups over time have a better chance of capturing the added value of co-creation and are therefore more likely to be successful.

User-centric

Living Labs are regarded as an approach to innovation somewhere between user-centred design and participatory design (Dell'era & Landoni, 2014), which is also linked to the co-creation element. Users, citizens or other relevant stakeholders, dependent on the context, domain and strategic goals of the Living Lab, are given a central place and role.

Therefore we assume that the type of Living Lab and the type of 'users' that are put central play a role in the success of Living Lab organisation.

3 Methodology

Within this study, we are collecting longitudinal data from a cohort of 37 Living Labs that applied for ENoLL certifiifation in 2015. We are comparing three groups: 10 rejected Living Labs, 13 active Living Labs and 14 Living Labs that were active for a couple of years but that failed to sustain. We plan to compare the Living Labs based on their application data, secondary materials and interview with key informants of the initiatives, unravelling the defining characteristics of successful and sustainable Living Lab

organisations. For this paper, we use the evaluation scores from the independent experts that reviewed the original 2015 applications on the ENoLL certification criteria (see Vervoort et al., 2022).

We also conducted three in-depth interviews with three of the recently aborted Living Labs. As all three Living Labs existed for quite some years before stopping, this allowed us to generate the first insights into drivers and barriers for long-term Living Lab survival.

4 Results & discussion

For the cohort of 2015 there were in total 36 Living Lab applications. From this sample 13 Living Labs were accepted that are still part of ENoLL, whereas 14 Living Labs have ceased to exist after a couple of years and 9 Living Labs were rejected in the first place. It is already striking that the large majority of all Living Labs entering the certification process in 2015 are no longer active (23 out of 36).

The table below shows the division based on what type of actor can be considered the leading one: academia (e.g. a university), public sector (e.g. a city), non-profit (e.g. an NGO) and private (e.g. a large company).

Table 2 Living Labs according to current status and driving actor

Main actor	*Still member*	*Former member*	*Rejected*	*TOTAL*
Academia	8	4	2	**14**
Public Sector	2	4	2	**8**
Non-profit	2	4	1	**7**
Private	1	2	4	**7**
TOTAL	**13**	**14**	**9**	**36**

Source: This is the style for sources

Based on the table, the academic Living Labs are the most popular type and at the same time the most likely to be still active. The public sector and non-profit Living Labs have similar number, with the majority of Living Labs belonging to the category ‘former member’. It seems that this category is able to establish a Living Lab for a certain amount of time, but is less likely to sustain these activities for a very long period of time. Private sector Living Labs are the most likely to belong to the rejected category, which indicates that apparently it is more difficult to operate along the required Living Lab principles and certification criteria.

At the time of writing, we were able to already interview three Living Labs that belong to the category ‘former member’. All three Living Labs existed more than 5 years after their certification in 2015 so they can be considered as relatively successful for a period of time. What is striking, is that all three Living Labs report a lot of changes over the years. These changes deal with multiple elements related to the Living Lab organisation. First of all, all three Living Labs underwent at least one change in terms of the driving organisation or institution. However, this did not lead to their direct demise. It fostered a

process of change and recalibration. This change in terms of leadership meant changes in the funding model and in the business model. As critical success factors, being linked to a certain regional ecosystem with support from various local actors was being mentioned. Involvement of end-users and the Living Lab methodology are also mentioned as critical success factors. A connection to a research or academic partner is also regarded as a success factor for the Living Lab. As barriers the lack of directly implementable results and conflicting timelines with the host organisation are mentioned. Also, finding the 'right' people that are open to having multiple roles and that can cope with 'chaos and uncertainty'. Structural funding is seen as necessary to some degree, but one should also not be too dependent on it as it holds back an organisation from developing its own path and business model. Linked to this, it is also mentioned that being stuck too much in operational work without having the space to work at a strategic level is a large risk for the Living Lab to become obsolete and without new projects in the longer run.
A final preliminary finding is that all the people we interviewed were in some way still involved in Living Lab-like activities or roles, adhering to the basic Living Lab principles in another organisation or as an independent consultant. This seems to illustrate that establishing and operating a Living Lab is more a state-of-mind and conviction, rather than a career choice.

4 Future work

This research is far from finished. We plan to interview all Living Labs from this cohort to be able to extract findings and insights from the active Living Labs as well as from the rejected and aborted Living Labs. We assume that some of the rejected Living Labs might have been active or be still active under some other organisational form. We also assume that the reported 'changes' within the previously active Living Labs are also part of the active members. Future interview and other insights will shed light on how these Living Labs cope and have coped with these changes, and we will try to abstract the drivers and barriers for successful navigating these change processes. As ENoLL is currently performing re-evaluations of their members, called 'value capturing', we will also be able to use quantitative data to assess whether there have been evolutions in the scores of the assessment criteria which can be used as basis for qualitative expansion.
With this research, we contribute to the scholarly research on long-term impacts and effectiveness of Living Labs as non-linear, iterative and collaborative innovation organisations. By studying a longer-term cohort of organisations we will be able to generate insights beyond anecdotal case studies and beyond single project outcomes.

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