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Features of the higher education institutions' community innovation labs

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Abstract. *There has been an increasing demand from society towards higher education institutions (HEIs) to contribute to the development of local communities in which they are embedded through responsible (social) innovation actions. Redesigning thoughtfully the relationship between HEIs, the public sector, diverse private actors and NGOs is paramount. The goal is to create a connected governance structure that enables coherent innovation actions by diverse actors in accordance with co-creation principles and collective intelligence. A response to this call for action from academic stance are so called community innovation labs (CILs). This paper gives an overview of the CIL concept and framework and reports first experiences on running CIL projects. Drawing on the existing literature on community innovation labs as well as experiments and projects run by a business school CIL from Romania, the paper identifies the key elements of the management framework for running a CIL. The paper also makes recommendations regarding how such an experimental setting can be used in higher education business and management studies for generating solutions to sustainability problems.*

Keywords: Innovation lab, community-based learning, higher education, community innovation, sustainability.

Introduction

The higher education institutions (HEIs) can be engines of societal transformation and innovation. Some society actors see universities as a possible source of solutions to enable social innovation and overcome societal challenges (Dorland et al., 2019). HEIs play a critical role in helping shape new perspectives and better futures for the world, educating people and delivering knowledge and innovation into society. HEIs not only have the capacity to experiment with innovative sustainability solutions in a 'real-world' context, but they also have a multiplier effect on catalyzing wider society's transition towards sustainable communities.

Nowadays, the learning exchange and knowledge sharing between academia and society, became critical for developing innovative, sustainable, resilient and ethically acceptable solutions to societal problems (Morrison et al., 2020; Păunescu & Matyus, 2020). Engagement of the higher education institutions in their local communities is critical to enhancing economic, social and environmental well-being.

In line with these delineated matters, in the paper we define the concept of community innovation lab (CIL), designed as an experimental setting within HEIs to address societal challenges. The paper foresees a literature analysis on innovation labs with respect to community development towards sustainability, identifying the challenges and opportunities for higher education institutions. Based on some experiments and observations conducted in a business school innovation lab in Bucharest, the components of the CIL management framework are also

DOI: 10.2478/picbe-2022-0050
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scrutinized. The paper reports first experiences on running CIL projects in a university business school in Romania. Recommendations regarding how such an experimental setting can be used in higher education business and management studies for generating solutions to sustainability problems are included in the concluding part of the paper.

Literature review

Usually, HEIs do not have a clearly established role in the local development agenda. Yet, communities are expecting the HEIs to work closely with them and take leadership roles by transferring their expertise and skills to the direct local context to stimulate collective intelligence, social innovation and sustainable development (Jordaan & Mennega, 2021). HEIs can help communities by channelling the capabilities, skills and expertise of their researchers, academics and students to critical problems and opportunities facing communities (Schlossberg et al., 2018). One response to the society demand to increase the community – university collaboration and engagement is the development of 'real-world laboratories' (Schäpke et al., 2015, Schäpke et al., 2017). These are creative experimental settings that can take various shapes: living labs, fab labs, social labs, or community innovation labs. Although this issue has been of interest to scholars for some time now, little is known about how community innovation labs are managed or the main factors influencing their development and evolution (Osorio et al., 2020). Moretti (2019) found that online communities represent a potential mechanism to overcome the current gap in promoting lab research.

A growing literature has explored the role of innovation as a driver of healthy economies and sustainable communities (e.g., Schmidt & Brinks, 2017, Zhou & Qi, 2018). In the literature the innovation labs are regarded as creative open spaces that provide a stimulating and collaborative environment for developing new solutions (Schäpke et al., 2017). Communities' actors increasingly seek to foster collaborative innovation with universities through the design of creative spaces where they can co-create together, such as incubators, accelerators, social and fab labs (Schlossberg et al., 2018). Innovation spaces bring together multiple actors across sectors and professions for collaborative practices to generate new products, services and processes. Yet many innovation spaces and labs fail to deliver on their promises and are subsequently interrupting their operations or even are shut down. How can (community) innovation labs be better managed to foster effective collaborative innovation? The research on (community) innovation laboratories is emerging and there remain various questions to answer about the structure, management framework, innovation strategies and public policies of CILs.

Real-world innovation labs are spaces that enable innovative and participative research and development, use multidisciplinary approaches, and promote the co-creation paradigm. They are user-centered, and their open innovation ecosystems allow for integration of research and innovation processes in real-life communities and settings (Santonen et al., 2022). Real-world laboratories, either they take the shape of living laboratories (Hirata, 2019) or social innovation labs (Westley et al., 2014), use experiments and learning exchanges in real-world settings, locally or at a broader scale, to understand, shape and design the community change. This will ultimately contribute to solving the world sustainability challenges (Schäpke et al., 2017). As per Schäpke et al. (2015) there are various types of results the real-world labs can create: generation of robust and creative solutions for local community problems, experimentation and testing of new ideas and new solutions, adaptation and transferability of existing solutions to other contexts, etc. Schlossberg et al. (2018) stressed also that community gains access to the latest scientific evidence addressing its challenges and learns from examples of best practices. Other research (Maldonado

et al., 2019) foresaw the use of innovation labs as teaching and learning tools. These can be used to offer an educational option that meets the current and future needs of society, which implies quality education and societal relevance. McCrory et al.'s (2020) recent work acknowledged the use of these experimentation spaces as the main innovation centers in their organizational setting. Academics and community stakeholders gather to experiment with alternative research and innovation practices that address existing community problems (Lhoste, 2020). However, there are various factors that may enable or limit an innovation lab to experiment with sustainable solutions, such as strategic intent, governance mechanism, financial model, knowledge generation and sharing, community-based approach, to name a few of them (Osorio et al., 2020).

Methodology

The paper offers an overview of the community innovation lab concept and its characteristics and reports first experiences on running CIL projects within a university business school in Romania. The discussion builds upon the features of existing innovation lab types presented in the literature to define the CIL concept and propose a management framework for this creative establishment. The paper also discusses the experiences of running CIL projects through such an experimental setting developed at the Bucharest University of Economic Studies.

The paper employs a single case study as method of analysis, therefore the discussion included in the paper and its research findings are limited to the experiences created within the context and situation presented in the current research.

Results and discussions

From the lens of HEIs, community innovation labs are seen as experimental spaces (online or onsite) of transdisciplinary and multidisciplinary learning, aimed at facilitating collaboration and generation of knowledge through co-creation processes. They capture the collective intelligence of the actors involved, both academic and non-academic stakeholders, to address the societal challenges. They are functioning as dedicated structures or specialist teams within universities or other organizations or operate as independent open innovation settings (Schmidt & Brinks, 2017). CILs are aiming to tackle complex societal challenges that affect, for instance, the design and implementation of public policies (Fuller & Lochard, 2016). Community innovation labs use innovative learning methods and tools (e.g., problem-based learning, community learning, design thinking, theory of change), and experiment with and propose innovative solutions (products, services, processes, systems) for societal issues. They can also suggest public policies (EUPAN, 2018), which are aimed to generate a positive change for each actor involved. These labs are characterized by strong connections to and involvement of all actors in the quadruple helix model (academia, public sector, private sector and civil society).

An example of project that supported the development of community innovation labs aimed to increase the universities' engagement with the communities, leading to social innovation, is the Erasmus+ "Community Learning for Local Change" project (localchange.eu). Through the project, community innovation labs were created in the partner countries to reinforce partnerships between HEIs and the communities in which they are embedded. The community innovation labs are conceived as a new format for university-community interaction aiming at innovation for sustainability and social entrepreneurship. The purpose of these innovation labs is to develop, implement and test a new approach that promotes creativity, entrepreneurial thinking and skills development for designing innovative solutions in close cooperation with the communities.

The activities of the community innovation labs are largely self-directed, there is no central coordination established, actions being decided by the needs, interests or priorities of the communities in which HEIs are present, or by their members. Thus, the labs have the independence to identify their own priorities and projects. Funding for the activity of the innovation labs is coming from university, EU projects, membership fees, and eventually from selling of services.

The role of the universities hosting the community innovation labs is three-folded: (1) providing skills and expertise and offering a creative space and an area of experimentation; (2) partnering with innovative organizations from the community for new projects, networking and nurturing communication that encourages open dialogue and feedback; (3) hosting innovation projects and events for further dissemination of the results achieved within the labs.

One example of such a lab is the Bucharest Community Innovation Lab (BCIL), an innovation space set up by the Bucharest University of Economic Studies in its urban environment with regional partner communities. It is an experimental setting that combines social innovation and community learning. The lab provides a transdisciplinary framework for students, teachers and the community to collaborate on issues that matter locally. The lab allows for a multi-faceted understanding of what the local community challenges are and, thus, provides the students with the opportunity to really analyse the change potential. BCIL acts as a starting point for co-creation and co-founding of local entrepreneurial solutions to local community problems. It is a voice for the local challenges and the change makers (social entrepreneurs, businesses interested in implementing circular economy principles, citizens etc.) in front of policy makers. A proposed management framework for community innovation labs is depicted in Table 1.

Table 1. A framework for community innovation labs

What? Purpose and goals ➨ Aim at gleaning needed expertise from the community to make real social change ➨ Fit for purpose at local/ regional/ country level ➨ Embedding the concept of social community engagement into the curricula	**Who? Leadership** ➨ Challenge driven university/ educational programs ➨ Focus on value realization and social impact achievement ➨ Collaborative work and collective intelligence ➨ Self-directed, based on members' needs, interests or priorities ➨ Independence (own priorities and projects) ➨ Involve all interested stakeholders ➨ Top-down model for selecting societal challenges ➨ Develop innovation portfolios	**How? Structure** ➨ Clusters of innovation ➨ Dedicated structures or entities ➨ Working groups/ specialist teams working in a creative space ➨ Employed for individual projects ➨ Experimental space for different areas of experimentation ➨ Established legal framework
What? Capabilities ➨ Competence, skills, abilities ➨ Experience ➨ Unique insights ➨ Know-how ➨ Practical skills	**How? Processes** ➨ Tackle complex challenges and propose innovative solutions ➨ Bottom-up model for developing the solution	**How much? Impact** ➨ Outputs ➨ Outcomes ➨ Social impact measures

➨ Information capital ➨ Tacit knowledge ➨ Financial capital ➨ Innovative tools and methods ➨ Intellectual property management ➨ Other resources	➨ Problem-based or project-based learning ➨ Host innovation projects and events ➨ Early stages of policy design ➨ Keep open lines of dialogue and feedback	

Source: Authors' own research.

The activities developed by BCIL are linked to the curricula of the study programmes, for example in the form of workshops, seminars or projects, and are aimed to bring together students, staff and community members to work and engage actively in the learning process and social innovation. BCIL ensures connection of community organizations with university faculty and students to help solve critical community issues in a variety of areas, such as the environment, health, nutrition, transport, and education, which contribute to local community economic development. Currently, BCIL facilitates learning exchanges and social enterprise solutions related to topics such as: action-driven waste management system for individual consumer, use of circular economy in development of start-up business model, education for adults on waste management (at home, at work), improvement of urban green space, etc. Students are invited to choose this work as a part of their regular course offer and faculty are involved as part of their teaching commitments, but also in the sense of co-teaching for sharing their experiences. Varied community group members are involved based on their stakes, backgrounds and interests in the respective topics.

The effective interaction and collaboration between university and community is ensured through varied community workshops (online and onsite). Those community workshops are organized as such to facilitate the innovation process, starting from problem definition, ideas generation, theory of change, business (or system) modelling and the planning of a concrete intervention or business foundation in the community.

The activities run by BCIL are of benefit for four categories of actors: (1) teachers and staff enhance their knowledge about the university's social and natural environment and take advantage of all benefits deriving from an experimental education model that connects the local community issues with social innovation and entrepreneurship; (2) students increase their awareness of the community issues, develop their understanding of community environment (by connecting directly with community actors), increase their ability to address complex issues and improve their civic responsibility and employability (for instance, through acquisition of knowledge, skills, and social entrepreneurship competences); overall, they benefit from a new learning environment that fosters community learning; (3) organizations (private, NGOs, social organizations) and citizens in the local community benefit from the students' assistance and support with the development of social innovation solutions, prototyping and ideas implementation; (4) policy-makers benefits from the design of evidence-base community solutions.

Conclusion

The paper gives an overview of the community innovation lab concept and framework and reports first experiences on running CIL projects in a university business school in Romania. Drawing on the existing literature of community innovation labs as well as experiments and projects run by the Bucharest CIL, this paper identifies the key elements of a management framework for running a CIL. These are purpose and goal, leadership, structure, capabilities, processes, and impact. The

study offers insights into the relationship between academic research and community innovation, thus laying a foundation for further research in this domain. Community innovation labs can address un-met market demands by linking academic research results with the community users, who were directly involved in the research.

Overall, the BCIL initiative proved to allow the identification of highly relevant and meaningful challenges in the local communities, while also providing a learning environment in which the students were highly motivated, engaged and trained to tackle the problems. They proved also to be able to involve several actors who can contribute or are influenced by the solution. These findings were also acknowledged by previous works (Huertas et al., 2021). Therefore, community innovation labs can become a part of the transformational change model needed by the HEIs' educational process in pursuit of sustainable development of their communities and the society overall (Purcell et al., 2019).

The proposed experimental setting – CIL – can be used in higher education business and management studies for building assignments aimed at generating solutions to sustainability problems, such as: development of an internationalization action plan for a social enterprise (e.g., International Business course), building a strategy to engage with the (social) clients in a gradual way (in line with the capacity of the enterprise) (e.g., Business Strategy course), improvement of the business model of an existing (social) enterprise (e.g., Entrepreneurship course) or designing an user validated system to train and recruit disadvantaged employees (e.g., Human Resource Management course).

This research is not without limitations. The paper employed a single case study analysis and the findings presented relied on the data available on the university website and the CIL project website, which were not always complete or accurate. Further analysis could focus on defining the CIL business model and assessing the innovation partnerships of CILs that lead to sustainable value creation, by collecting more data across sectors and territories.

Acknowledgements

This publication is based upon work from COST Action 18236 "Multi-disciplinary Innovation for Social Change", supported by COST (European Cooperation in Science and Technology). COST is a funding agency for research and innovation networks (www.cost.eu).

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