BRIDGING RESEARCH AND PRACTICE IN THE PUBLIC SECTOR: LEVERAGING SWEET SPOT ANALYSIS OF NETZEROCITIES OUTCOMES TO ADVANCE CLIMATE ACTION IN EUROPEAN MUNICIPALITIES

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Abstract

Linking education and research requires a transdisciplinary perspective and specific attention to translating research into practice by producing easy-to-understand materials and experiences that prepare students for the challenge of navigating complexity on the systems scale. An emerging trend in service design for the public sector is the ideation and deployment of a systemic approach to tackle complex grand challenges, which requires an adaptation and novel design of learning methodologies and content for public sector stakeholders aiming to learn to innovate. Systemic approach has been studied extensively in business literature and private sector concepts. However, when applied to the public sector and municipalities, it is an innovation that transcends their traditional roles to become orchestrators of multi-actor collaborations.

It is theorized that achieving climate neutrality in urban contexts requires municipalities to adopt a **systemic innovation** which integrates technological solutions, economic and financial constraints, and social innovations. The interconnectivity of these elements implies that municipalities' actions must constantly adapt across silos to remain relevant and targeted in a constantly changing local context. From the observation that to achieve the systemic innovation required for reaching climate neutrality in cities, organisational change in the municipality is required. Thus, municipalities need to **build the relevant capabilities** required to address climate issues by becoming **learning organisations** which can continuously learn how to learn together. In this context, knowledge translation is essential for bridging research and practice, ensuring that evidence-based insights inform policy and decision-making processes.

The NetZeroCities EU-funded project aims to support European cities to become Climate-Neutral and Smart Cities by deploying a **Learning by Doing design approach** [26] to create stakeholder buy-in to shift the public sector mindset when proposing comprehensive, innovative solutions co-created with citizens, private companies, civic organizations and research institutions, which disrupt the current siloed approaches to managing cities. The NetZeroCities project provides cities with information, tools, and expertise to support urban climate transitions to achieve climate neutrality in a socially inclusive way.

This research outlines how the strategy tool of the **Sweet Spot framework** is typically utilized in corporate strategy making and applied to sustainability [20] through a **co-design methodology**. It identifies key **organisational capabilities**, alternative **pathways**, and **stakeholder needs** to support climate action at the municipal level. The results have informed the design of the NetZero Cities **Learning offer value proposition** [22], an educational digital portal designed to empower and legitimise public administrators, researchers, civic organisations, policymakers, consultants, and change-makers to reach climate neutrality in urban areas through learning from other cities. This paper highlights the critical role of knowledge translation in bridging research and policy implementation, strengthening the links between academic inquiry and real-world climate action, and giving EU municipalities the skills required to implement climate transition technologies in the public sector systemically. It provides a theoretical contribution to the discourse on how a transdisciplinary team may co-design education programs for the public sector through a strategy tool typically utilised in the business methods of innovation.

Keywords: Systemic innovation, education, capability building, technology, learning organisation, digital learning, development, learning by doing, co-design.

1 INTRODUCTION

1.1 Systemic Innovation & EU Municipalities as Learning Organisations

Municipalities mitigating and adapting to climate change face complex problems rooted in technological, economic, financial, organisational, political, cultural and social systems. Interconnected systems often become their own roadblocks [18] unless horizontal relationships break up siloing and isolation within the system [17]. “The systems approach to problems focuses on systems taken as a whole, not on their parts taken separately. Such an approach is concerned with total-system performance even when a change in only one or a few of its parts is contemplated because there are some properties of systems that can only be treated adequately from a holistic point of view.” [1, p.661] A systemic approach is one way the public sector might create continuous improvement [12] in the sustainability domain to successfully reach the UN’s sustainable development goals [30].

Sustainable transitions are difficult. Even with enthusiastic commitment from expert practitioners, without the required capabilities to take a systemic approach, EU municipalities face insurmountable complexity [31]. “Change comes from reimagining how different organizations and actors in the economy co-create value.” [17, p.10], and the implementation of the systemic innovations from research must be made into practical resources which produce organizational readiness [32] in cities to respond to the specific challenges of local contexts across the EU. By becoming **learning organisations** [25; 21; 10] municipalities might expand their capacity continuously to create the future towards which their net zero goals drive. A municipality is becoming a learning organization when they “expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.” [2, p.3] Such capabilities can be fostered through **learning by doing** [33; 27] and these specific practical lessons must be designed with intention. The NetZeroCities project has used a **co-design** [28; 4; 14; 6; 16] methodology to facilitate knowledge translation from research partners [15] and work across silos to produce a comprehensive learning offering to public administrators across the EU, with evidence-based needs analysis and research-driven pedagogy in a research through co-design approach [8]. This paper offers a theoretical contribution to education literature by proposing the use of a classic tool from strategy making in business literature called the Sweet Spot Canvas to find a value proposition for an educational outcome used by public administrators, inclusive of courses and a digital presence. This case study is particularly complex because it aims to teach a systemic approach.

1.2 NetZeroCities Project

NetZeroCities is a large multi-annual EU-funded project that aims to support 100 European cities to become Climate-Neutral and Smart Cities by 2030. The project promotes a **systemic innovation** approach for European cities to meet their net zero goals by integrating multiple levers of change (including learning, social innovation, stakeholder participation, policies, technologies, and others). While undergoing such transitions, municipalities experience **organisational change** as a response to tackling the complexities of climate action planning. **Capability building** through **learning** [24] equips municipalities with the proper disciplines required to succeed in taking a systemic approach in their local contexts. Various research-based instruments, tools, and resources have been co-designed within the NetZeroCities Project. They are offered to public administrators through multiple learning modalities: in-presence, hybrid, and online learning. A **Learning by Doing** design approach was used to create stakeholder buy-in for the project to shift the public sector mindset when proposing comprehensive, innovative solutions co-created with citizens, private companies, civic organizations and research institutions, which disrupt the current siloed approaches to managing cities. One emerging modality for delivering this service system is the NetZero Cities Learning program, which consists of a range of learning offers, including webinars, courses in presence, courses online and an online platform with interactive resources.

This effort explores how the NetZeroCities Learning Hub might facilitate the integration of research-driven insights into local policy implementation for climate neutrality and highlights the critical role of knowledge translation in bridging research and policy implementation, strengthening the links between academic inquiry and real-world climate action, and giving EU municipalities the skills required to implement climate transition technologies in the public sector.

2 METHODOLOGY

2.1 Co-Design Workshop

2.1.1 Workshop Planning

The NetZeroCities project contains an extreme wealth of expert knowledge due to the magnitude of the project and the inherent transdisciplinary [29] structure of the work and outputs. The project is a system itself, and an internal systemic approach to task management is necessary to leverage best and distribute the knowledge being produced. “For the collective mind, the connections that matter are those that link distributed activities” [31, p.374]. To create a shared vision [25] of the NetZeroCities Learning program and online learning space, workshop participants met in October 2024 to collaborate on a series of correlated canvases which would define the context of what might be offered to cities that access NetZeroCities materials for learning about the implementation of a systemic approach to climate transitions in their local contexts. It was important to begin by aligning task members’ overview of (1) what available resources or services had already been produced by NetZeroCities (including those that were planned for development); (2) what alternative products or services exist from outside organisations which could be used in tandem by cities; and (3) what are cities’ needs that were identified through user research analysis during the first three years of the project. This was accomplished by using a tool called the Sweet Spot Canvas.

2.1.2 Sweet Spot Canvas Tool

The Sweet Spot Canvas Fig.1 is a tool used to find how an organisation meets the “customers’ needs in a way that rivals can’t, given the context in which it competes.” [11, p.89]. The Sweet Spot is the space in which an organization can satisfy user needs better or differently from its competitors. The Venn diagram maps the *organisation’s capabilities* (the available resources and services) in the top circle, while *alternative offerings* (services and offerings which might be used instead of what the organisation is capable of providing) are mapped in the right circle, and *stakeholder needs* (the expectations or requirements of the user) in the left circle. Within the overlap of the organisation's capabilities and stakeholder needs, the sweet spot offering can be identified as what is uniquely possible from the specific organisation’s resources to meet the needs of stakeholders in a way that alternative products or services cannot.

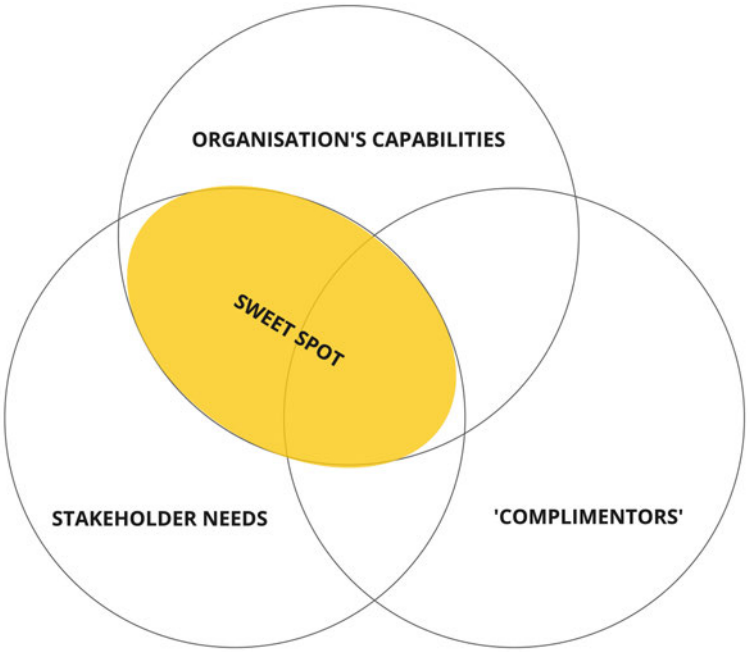

Figure 1. Generic Sweet Spot Canvas, adapted from Collis & Rukstad 2008

2.1.3 *Workshop Facilitation*

Relevant outputs from previous project tasks were collected to inform the discussion and the co-design workshop with consortium members from across the NetZeroCities project. The workshop session began with a series of presentations from workshop participants with historical knowledge of the project on (1) the city needs, (2) the current capabilities of the NetZeroCities platform and portal for cities (based on insights from usage data collected from the NetZeroCities digital portal), (3) understanding of the stakeholder user clusters, and (4) suggested content which could be produced in response to a defined value proposition with skill sets present within the team. With this shared vision of the context surrounding the development of a NetZeroCities Learning program and portal, the Sweet Spot Canvas template was introduced for the workshop. Fig 2.

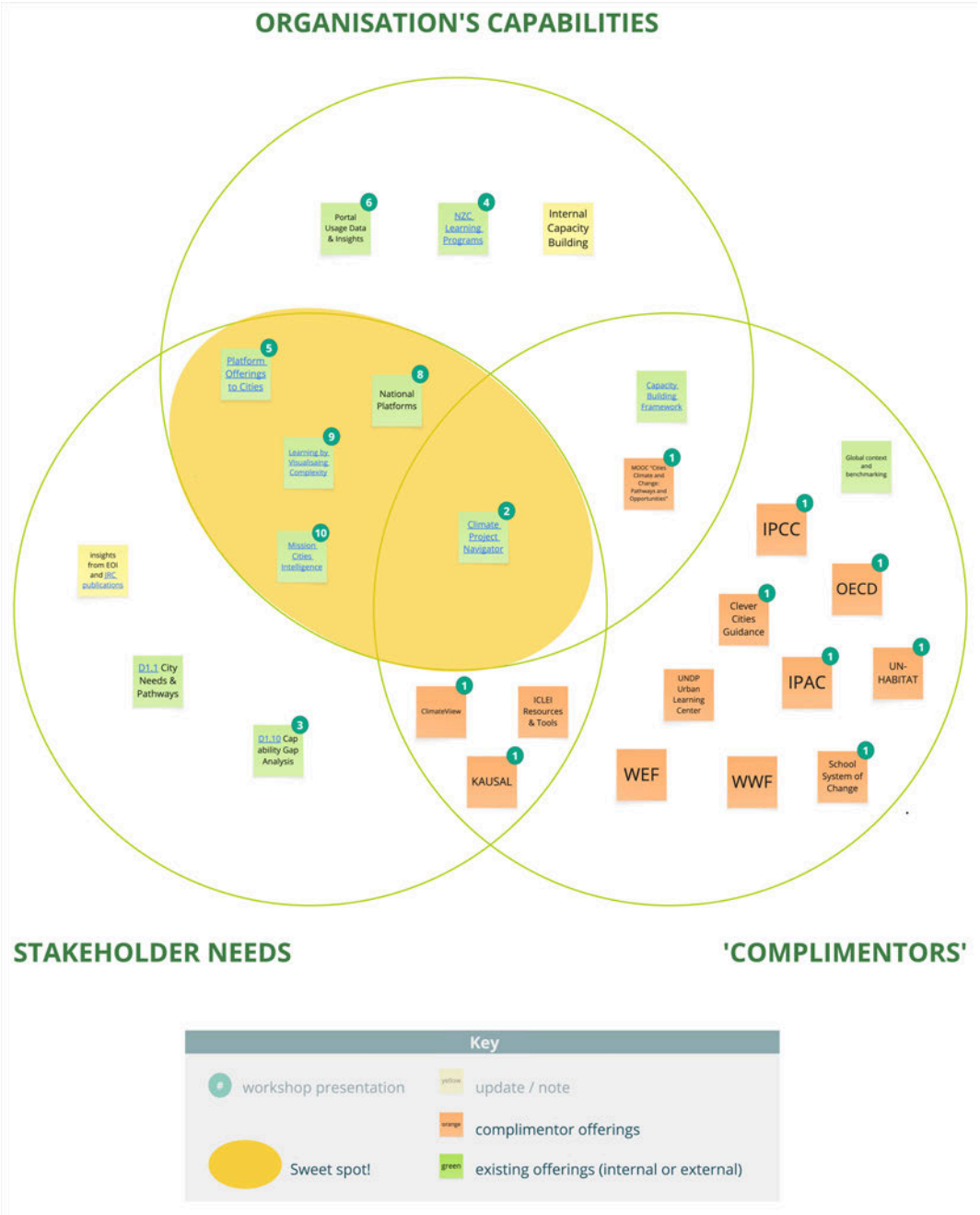

Figure 2. NetZeroCities Learning Hub Sweet Spot Canvas

2.2 Sweet Spot Canvas Analysis

2.2.1 Canvas Segment: Alternatives and 'Complementors'

In the context of guiding European municipalities towards climate neutrality, we might not see other service or product offerings as *competitors* as typically framed in business strategy. Instead, we view them as *complementors* which a city might also access and benefit from when developing a portfolio of action. These external platforms and initiatives were introduced to the group, framed as sources of inspiration for the offering, and treated as supportive resources that could be used simultaneously. This view supports a systemic approach by cities and includes National Platforms [19].

2.2.2 Canvas Segment: Stakeholder Needs

European municipalities' specific capability building gap for reaching climate neutrality through a systemic approach is a massive challenge to articulate and define. This perspective was gained through research analysis of city needs [3]. A gap analysis of user capability building abilities conducted by the NetZeroCities project explored these capabilities through user interviews for insights into the needs, challenges, and preferences of the city representatives aiming for climate neutrality. Interview responses were mapped to the NetZeroCities Climate Transition Map [13; 23; 9] and by quantifying the activities measured, an indication of how frequently each phase of the NetZeroCities Climate Transition Map is covered, emerged and highlighted where cities have yet to be adequately supported in its use. Previous research [3] visualises the existing support and needs of cities that are new to the project and have not begun using its tools or services. This provided a foundational knowledge of what our users would need and was heavily referenced during the Sweet Spot Canvas development and discussion. Materials from a prior presentation on *Peer Learning on the European Level and Online Peer Learning Groups* provided insight into the value and impacts for cities participating in twinning learning. Peer collaboration at the Sub-European Level was included in this circle due to the articulation of support for cities through national platforms as communities of practice. The activities of this supporting task displayed a country-specific support framework which aligns the particularities and necessities of each context within one of five clusters that can be placed upon a continuum of support ranging from having an *advanced national platform* to having *other national ecosystems*.

2.2.3 Canvas Segment: Organisation's Capabilities

The NetZeroCities project has produced a myriad of materials and outcomes since its origin in October 2021. It has become an organisation with many available capabilities, which must be intentionally leveraged to design services and products that can be accessed by all European cities, regardless of their prior familiarity with climate transitions. Articulating NetZeroCities' current capabilities began by reviewing the internal capacity building materials of NetZeroCities.

These activities resulted in a map showing types of learning (peer-to-peer, learning by doing, expert-lead learning, reflective learning, and individual learning) covered by a portfolio of in-presence or hybrid activities (seasonal schools thematic/national workshops, best practice sessions, pilot city program, collective sensemaking, boot camps, capital hub sessions, policy labs, twinning programs, site cities, stakeholder mapping codesign) for cities.

The data insights from portal usage revealed that the vast wealth of intelligence and information in the knowledge repository is rarely accessed. This underscored the need for curated product service system delivery. Netzerocities' capabilities produce valuable resources, but the lack of a user-centered design of the learning material does not support public administrators' self-learning. The outcomes of the sweet spot analysis led to the collective development of the Value Proposition of the NetZeroCities Learning offer.

3 RESULTS

The result of this experiment of applying business tools from strategy making literature, specifically the Sweet Spot, to developing a co-designed education product for the public sector supported a multi-disciplinary group to co-design the learning vision. In this illustrative case, the application of the Sweet Spot Canvas helped define a value proposition rooted in transdisciplinary perspectives, historic project knowledge, and collaboration across working teams. In this specific case, the resulting NetZeroCities learning offer Value Proposition came to be: *"EU-specific learning programs for reaching climate neutrality in cities with a systemic and collaborative approach, in local languages leveraging and supporting national platforms, using visuals and to overcome the challenges of implementing a systemic approach."*

Next, participants were invited to utilize the value proposition design canvas [22] to contribute to the user profile (City public administrator) to identify the gains, pains and learnings of the user and the Value Map for identify the services, gain creators, and pain relievers of the service with the aim of identify the *fit*, which is achieved when the services produce pain relievers and gain creators that match one or more of the learning needs, pains relief, and gains that are important to users.

4 CONCLUSIONS

The NetZeroCities learning offer aims to facilitate the integration of research-driven insights into cities' local policy implementation for climate neutrality by taking a systemic approach. When designing the workflow, we prioritise working in interdisciplinary teams to ensure that we operate as a learning organisation that upholds systemic innovations while producing new content for cities. The knowledge produced in this project must be interpreted and repackaged through a service design approach, and this includes the design of the learning experience for public administrators of cities. While developing the NetZeroCities learning value proposition, the Sweet Spot Canvas resulted to be an effective tool for visualizing and systematizing internal skills and knowledge to produce a unique and useful value proposition for cities attempting to implement climate action plans with the support of NetZeroCities. Shaping a learning vision which is shared across the actors to break down internal work silos and leverage the collective knowledge of the project is the practical contribution of the research.

This research's theoretical contribution is the extension of the use of a tool from the business sector, a method for innovation, applied to designing a complex learning program for public sector users. Its application proved useful as a boundary object to support coordinating an interdisciplinary team, and it worked as a means to the end of putting research-driven sustainability products and services into the hands of public administrators. The critical role of knowledge translation between disciplinary domains in bridging research and policy implementation strengthens the links between academic inquiry and real-world climate action and gives EU municipalities the skills required to implement climate transition technologies in the public sector.

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REFERENCES

[1] Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, *17*(11), 661-671.

[2] Anand, P., Hunter, G., Carter, I., Dowding, K., Guala, F., & Van Hees, M. (2009). The development of capability indicators. *Journal of Human Development and Capabilities*, *10*(1), 125-152.

[3] Anghel A., Cartron E., Tjokrodikromo T., Ricard M., (2024) D1.10 Capability Building Gap Analysis. https://netzerocities.eu/wp-content/uploads/2024/10/D1.10-Capability-building-gap-analysis.pdf

[4] Blomkamp, E. (2018). The promise of co-design for public policy 1. In *Routledge handbook of policy design* (pp. 59-73). Routledge.

[5] Bresciani, S., Tjahja, C., Komatsu, T.,and Rizzo, F.(2023) Social innovation for climate neutrality in cities: actionable pathways for policymakers, in De Sainz Molestina, D., Galluzzo, L., Rizzo, F., Spallazzo, D. (eds.), *IASDR 2023: Life-Changing Design*, 9-13 October, Milan, Italy. https://doi.org/10.21606/iasdr.2023.403

[6] Bresciani, S., Rizzo, F., & Mureddu, F. (2024). Social Innovation and Co-design for Climate Neutrality: The NetZeroCities Project. In *Assessment Framework for People-Centred Solutions to Carbon Neutrality: A Comprehensive List of Case Studies and Social Innovation Indicators at Urban Level* (pp. 1-19). Cham: Springer Nature Switzerland.

[7] Bresciani, S. (2025). Social Innovation Projects for Climate Neutral Cities. https://doi.org/10.1007/978-3-031-87726-1

[8] Busciantella-Ricci, D., & Scataglini, S. (2024). Research through co-design. *Design Science*, *10*, e3.

[9] Cartron E., Tjokrodikromo T., Komatsu T. (2024) D9.6 Social Innovation Capability Building Service https://netzerocities.eu/wp-content/uploads/2023/11/D9.6-SI-Capability-Building-service.pdf

[10] Caputo, F., Garcia-Perez, A., Cillo, V., & Giacosa, E. (2019). A knowledge-based view of people and technology: directions for a value co-creation-based learning organisation. *Journal of Knowledge Management*, *23*(7), 1314-1334.

[11] Collis, D. J., & Rukstad, M. G. (2008). Can you say what your strategy is?. *Harvard business review*, *86*(4), 82-90.

[12] Elias, A. A., & Davis, D. (2018). Analysing public sector continuous improvement: a systems approach. *International Journal of Public Sector Management*, *31*(1), 2-13.

[13] Fisher, L., Carton, E., Beudermann, J., Chaudhary, N., Schmidt-Thome, K., Promes, E., Stearns, M., O'Phelan, A., Rizzo, F., Urrutia Azcona, K., Cantergiani, C., Dooghe, D., Moreno, J., Minoz, A., Kombeiz, O., Hukkalainen, M., & Eren, E. (2021, January 8). Report on Systemic City Transformation Methodology Deliverable D6.1. NetZeroCities H2020 Research and Innovation Programme. https://netzerocities.eu/wp-content/uploads/2023/12/D6.1.-Systemic-City-TransformationMethodology-2.pdf

[14] Hyysalo, S., & Marttila, T. (2023, November). CoDesign for sustainability transitions: How a long-term research agenda can instill social impact and provide an envelope for doctoral education. In *International European Academy of Design Conference: Exploring the Social Impact of Design Research* (pp. 720-727). Blucher.

[15] Jonas, W. (2015). Research through design is more than just a new form of disseminating design outcomes. *Constructivist Foundations*, *11*(1), 32-36.

[16] Komatsu, T., & Ricard, M. (2025). Social Innovation Design Pathways and Methods Toward Net Zero. In *Social Innovation Projects for Climate Neutral Cities: Making Municipalities Sustainable with People-Based Solutions* (pp. 91-109). Cham: Springer Nature Switzerland.

[17] Mazzucato, M. (2021). *Mission economy: A moonshot guide to changing capitalism*. Penguin UK.

[18] Meadows, D.H. (2008) Thinking in Systems: A Primer. Chelsea Green, White River Junction.

[19] Moreno-Serna, J., Kordas, O., Lumbreras, J., Minoz, Å., Saniour, N., & Rohracher, H. (2024). National Platforms to Transform Cities Using Collective Experimentation and Scale: The Case of Sweden and Spain. In *Higher Education and SDG11: Sustainable Cities and Communities* (pp. 145-158). Emerald Publishing Limited.

[20] Nguyen, D. K., & Slater, S. F. (2010). Hitting the sustainability sweet spot: Having it all. *Journal of Business Strategy*, *31*(3), 5-11.

[21] Örtenblad, A. (2018). What does "learning organization" mean?. *The Learning Organization*, *25*(3), 150-158.

[22] Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2015). *Value proposition design: How to create products and services customers want*. John Wiley & Sons.

[23] Ricard, M., Mondal, R., Bresciani, S., & Rizzo, F. (2024). Instruments for Implementing Systemic Change to Foster Climate Transitions in European Cities. In *Proceedings of the OpenLivingLab Days Conference 2024-"Living Labs Frontiers" Driving systemic change through Soci (et) al Engagement, for real impact"* (pp. 213-221). European Network of Living Labs ivzw (ENoLL). https://hdl.handle.net/11311/1280569

[24] Robeyns, I. (2017). *Wellbeing, freedom and social justice: The capability approach re-examined* (p. 266). Open book publishers.

[25] Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Broadway Business.

[26] Schank, R. C., Berman, T. R., & Macpherson, K. A. (2013). Learning by doing. In *Instructional-design theories and models* (pp. 161-181). Routledge.

[27] Srinivasa, K.G., Kurni, M., Saritha, K. (2022). Learning by Doing. In: Learning, Teaching, and Assessment Methods for Contemporary Learners. Springer Texts in Education. Springer, Singapore. https://doi.org/10.1007/978-981-19-6734-4_7

[28] Steen, M. (2013). Co-design as a process of joint inquiry and imagination. *Design issues*, *29*(2), 16-28.

[29] Tress, G., Tress, B., & Fry, G. (2005). Clarifying integrative research concepts in landscape ecology. *Landscape ecology*, *20*, 479-493.

[30] UN DESA. 2024. The Sustainable Development Goals Report 2024 – June 2024. New York, USA: UN DESA. © UN DESA. https://unstats.un.org/sdgs/report/2024/.

[31] Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative science quarterly*, 357-381.

[32] Weiner, B. J. (2020). A theory of organizational readiness for change. In *Handbook on implementation science* (pp. 215-232). Edward Elgar Publishing.

[33] Williams, M. K. (2017). John Dewey in the 21st century. *Journal of Inquiry and Action in Education*, *9*(1), 7.