



Co-creation and Multilevel-Governance: A Literature Report

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Collection of information on and presentation of the state of the art regarding MLG and co-creation (as well as related concepts), thereby highlighting the advantages, disadvantages and challenges of conceptual cross-fertilization. This work will be based on a systematic review of the literature and will be the basis for the other tasks. This task will therefore be the basis for three further tasks (T.2.2-4), all of which support the rest of the project – WPs 3, 4, 5, 6 and 7.

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Co-creation and Multilevel-Governance: A Literature Report

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Executive summary

Against the backdrop of the EU's twin transitions (green and digital), public authorities are seeking ways to couple policy innovation with democratic legitimacy and delivery capacity. This report clarifies what “co-creation” means in public governance and shows how it can be embedded in multilevel governance (MLG) so that legitimacy, effectiveness and inclusion reinforce one another across local, regional, national and EU levels. It maps concepts, actors and roles, tools and stages, benefits and risks, and evaluation practices, and explains how co-creation can move from ad hoc projects to system-level practice. The analysis draws on a narrative review of 111 publications on co-creation/co-production and public governance identified through a multi-step sampling strategy from Web of Science and Google Scholar.

In the literature, co-creation is regarded as a set of collaborative practices that span the policy cycle (including co-initiation, co-design, co-implementation, and co-evaluation) and involve active joint problem definition and solution development across sectors and knowledge communities. It is more intensive than consultation and more innovation-focused than general “collaboration.” Two main perspectives shape the field: knowledge co-creation (transdisciplinary, boundary-spanning, aimed at actionable insights) and value co-creation (service interactions that produce public value “in use”). Genuine co-creation requires cross-boundary citizen participation and active contribution, leading to public and stakeholder value.

At its core, co-creation brings together public institutions and citizens (or communities), while civil-society organisations, businesses, and experts also take part in shaping and delivering solutions. Boundary-spanning intermediaries such as NGOs and researchers facilitate these exchanges, ensuring coordination and knowledge flow across sectors and levels of governance. Practice is concentrated at the local level, where problems and capacities are most immediate, while national and EU levels shape mandates, finance, standards, and platforms that enable (or constrain) local experimentation and diffusion.

Reported benefits are grouped into seven areas: democratic legitimacy, enhanced knowledge quality and alignment, service and policy effectiveness, equity and inclusion, accountability and transparency, social cohesion and resilience, and market and innovation spillovers. Simultaneously, recurring risks include tokenism, elite capture, representation gaps and digital exclusion, diluted accountability, failure to scale, institutional inertia, consultation fatigue, and pitfalls in data and knowledge governance. These risks often stem from legal and bureaucratic limitations, power imbalances, weak mandates, and politically motivated design choices that emphasise symbolic involvement over meaningful collaboration.

In practice, diverse co-creation tools such as living and transition labs, deliberative mini-publics, knowledge-production workshops, and digital platforms work best when sequenced rather than used in isolation. The report consolidates various co-creation models into a seven-stage cycle: authorise and convene → discover and frame → envision and prioritise → prototype and test → implement → evaluate and learn → scale and institutionalise. Evaluation practices are strongest regarding process and outputs but remain weaker on outcomes, equity, and transformational effects, highlighting the need for longitudinal tracking and clearer causal inference.

Applications of co-creation are most evident in environmental and urban development fields, showing potential alignment with green and digital transition goals. However, gaps still exist in integrating co-creation into agenda-setting and decision-making, and in creating vertical channels that effectively lift local insights upwards while conveying mandates and resources downwards. When properly established and supported, co-creation works alongside representative democracy, reduces coordination and legitimacy issues in MLG, and enhances policy and service outcomes.

Taken together, these findings position co-creation as a pragmatic lever for governing the twin transition, not by “doing more participation,” but by embedding collaborative innovation initiatives within MLG so knowledge, authority, and implementation travel coherently across levels.

1. Introduction

Europe's twin transition (digital and green) unfolds within a complex system of multi-level governance (MLG) that extends from the European Union (EU) and national frameworks to regional and local implementation arenas. This complex governance landscape requires innovative approaches to ensure policy effectiveness, democratic legitimacy, and social inclusion. RECODE MLG (Rethinking Co-creation of Digital and Environmental Policy in Systems of Multilevel Governance) responds to this context by investigating *co-creation* as a pathway to govern the twin transition more democratically and effectively. The theoretical work within RECODE MLG develops the project's conceptual framework and a state-of-the-art model that integrates co-creation and MLG across different stages of the policy process (agenda-setting, decision-making, implementation), with particular attention to issues of legitimacy, efficiency, and fairness/inclusion (notably gender equality and consideration of cultural minorities).

This report undertakes a narrative review of the literature on co-creation and its relevance for MLG in order to clarify how the concept has been theorised and applied across different policy domains and governance scales. A review is necessary because co-creation has rapidly evolved into a widely used but inconsistently defined term, one that extends far beyond academic discourse into the vocabulary of policymakers, practitioners, and international organizations. It has, in many respects, become a governance “buzzword,” invoked to signal collaboration, innovation, and inclusion, yet often without clear analytical boundaries or evidence of its practical effects. To take the concept seriously and to assess its real contribution to public governance, a systematic examination of how it is used, by whom, and to what ends is necessary. Moreover, despite their shared concern with multi-actor coordination and cross-level interaction, the literatures on co-creation and multi-level governance have developed largely in isolation. By bringing these two fields into dialogue, this review seeks to assess the conceptual and empirical value of co-creation for understanding governance dynamics across levels.

This report presents the results of our literature review and advances a consolidated account of co-creation in public governance as studied and analysed so far. It maps how co-creation is defined and used across policy areas and governance scales, identifies common benefits and risks, and distils implications for MLG. The analysis builds on a targeted selection of the literature that records, among other things, policy fields, stages of decision-making, levels of government, actor types and their roles, benefits, governance types, limitations and challenges, and approaches to evaluation, thereby enabling a systematic comparison and policy-relevant synthesis. Following the introduction (Chapter I) and methodology (Chapter

II) chapters, and preceding the conclusion, the report is organised into six main chapters, each addressing a different aspect of the study:

Chapter III defines what is meant by co-creation in public governance, maps its current use across the literature, distinguishes it from related “co-” terms, and situates it within broader governance frameworks such as collaborative governance and social innovation. It also clarifies what is meant by value co-creation and knowledge co-production.

Chapter IV synthesises evidence on co-creation as a participatory governance approach, outlining its defining features, mapping associated governance models and logics, and detailing the roles of different actor groups. This shows how responsibilities are shared and which governance conditions enable the co-creation of public value.

Chapter V consolidates the academic evidence on co-creation’s benefits and risks, summarising its potential to enhance legitimacy, knowledge generation, and policy fit. It also identifies recurrent pitfalls to inform realistic process design.

Chapter VI examines how co-creation is operationalised in practice by mapping common tools, methods, and process designs into a seven-stage policy cycle. It identifies structural and capacity-related barriers across seven domains and reviews evaluation practices to guide a more effective design, implementation, and assessment.

Chapter VII analyses how co-creation is deployed within multi-level governance systems, mapping its occurrence across policy domains, stages, and governance scales. It further assesses its potential to improve policy integration, inclusiveness, and adaptability while noting the structural and contextual factors that may constrain these outcomes.

2. Methods of the review

2.1 Sampling and paper selection process

The review process was designed to systematically identify, collect, screen, and analyse relevant academic literature at the intersection of co-creation, co-production, and public governance. It combined a structured search strategy with clear inclusion criteria to ensure that the final sample reflected the most relevant, solid, and credible contributions. The approach aimed to capture both conceptual and empirical perspectives, spanning diverse policy areas, levels of governance, and actor constellations, while maintaining a focus on public governance contexts.

An initial database of 1,974 articles was compiled from the Web of Science (WoS) in October 2023. We used the advanced search tool for searches in the “Topic” selection with the following keyword chains (four searches):

- search 1: (((((((TS=(co-creation)) OR TS=(cocreation)) OR TS=(co-production)) OR TS=(coproduction)) OR TS=(co-design)) OR TS=(codesign)) OR TS=(co-initiation)) OR TS=(coinitiation)) AND TS=(governance);
- search 2: (((((((TS=(co-creation)) OR TS=(cocreation)) OR TS=(co-production)) OR TS=(coproduction)) OR TS=(co-design)) OR TS=(codesign)) OR TS=(co-initiation)) OR TS=(coinitiation)) AND TS=("public policy");
- search 3: (((((((TS=(co-creation)) OR TS=(cocreation)) OR TS=(co-production)) OR TS=(coproduction)) OR TS=(co-design)) OR TS=(codesign)) OR TS=(co-initiation)) OR TS=(coinitiation)) AND TS=("public administration");
- search 4: (((((((TS=(co-creation)) OR TS=(cocreation)) OR TS=(co-production)) OR TS=(coproduction)) OR TS=(co-design)) OR TS=(codesign)) OR TS=(co-initiation)) OR TS=(coinitiation)) AND TS=("public sector").

The result yielded 2,923 results. After excluding duplicates and including articles focusing on public governance only, we retained 1,974 articles. Exclusion of private governance articles was determined based on abstracts and keywords.

After reading several highly cited papers as well as randomly selected articles, we decided that the most effective approach for this report was to opt for a *narrative review* of the literature. Narrative reviews are more flexible and focus on interpretive synthesis and conceptual exploration across diverse strands of research, while a systematic review selects papers based on a rigorous PRISMA scheme and often aims at aggregating generalizable empirical facts (Greenhalgh et al. 2018). For our purpose here, which is to explore the theoretical link between co-creation and MLG, a narrative review seemed more appropriate

because studies on co-creation and MLG vary widely in terminology, methodology, and theoretical framing, making statistical or meta-analytic aggregation neither feasible nor meaningful. Our goal is not to measure effect sizes or generalisable outcomes, but to trace conceptual linkages, interpret patterns, and identify theoretical gaps at the intersection of these two literatures.

Given the large number of papers in our database, we had to decide which ones to analyse. The selection of articles for analysis was undertaken using a multi-step approach to balance citation-based influence, temporal relevance, and conceptual importance.

First, we identified the **27 most highly cited papers** in our database, setting a citation threshold at **200 citations**. While the citation threshold may seem arbitrary, it is supported by a clear distinction in citation counts: the least-cited article included in the highly-cited sample received 211 citations, compared to 199 citations for the first article excluded. Notably, the selection includes the widely cited comprehensive review of the literature on co-creation and co-production by Voorberg et al. (2015).

However, we recognised that this approach inherently favours older publications, as they have had more time to accumulate citations, potentially underrepresenting recent contributions. This also explains the strong emphasis on issues of sustainability and natural resource management within this sample, as opposed to the more marginal treatment of the more recent trend of digitalisation. To address this temporal impact, we expanded the initial pool with the **25 most cited recently published papers**, defined as those published between **2019 and 2023** (the most recent publication in the database being from 2023), provided these papers had not already been included in the top-cited selection.

During the screening process, we noticed that many highly cited works did not mention “*co-creation*” or “*co-production*” in their titles or abstracts, but referred to these concepts implicitly. To ensure our dataset included key conceptual contributions directly related to these terms, we added a third criterion: the inclusion of the **35 most cited papers that explicitly mention “co-creation” or “co-production” in their titles**.

We then deduplicated the resulting dataset to eliminate overlaps among the three pools, resulting in the following refined selection:

- 26 top-cited papers (≥ 200 citations)
- 25 top-cited more recent papers (2019–2023)
- 35 top-cited papers with “*co-creation*” or “*co-production*” in the title

Additionally, we recognised that the original database lacked publications from the last two years. To address this gap and ensure coverage of the latest scholarship, we conducted an additional **search on Google Scholar** using the keywords “*co-creation*” and “*governance*,”

and filtered the results to include papers published in late 2023 (not included in the database), as well as in **2024 and 2025**. We selected **25 papers** based on Google Scholar's "most relevant" sorting to approximate citation influence and thematic relevance.

This comprehensive approach yielded a ***final list of 111 papers***. This sampling strategy ensured a balanced representation of:

- Established and influential works based on citation count.
- Recent contributions showcasing the latest scholarship.
- Conceptually relevant works explicitly engaging with *co-creation/co-production* and *governance*.
- Up-to-date publications that might not yet be included in major bibliometric databases.

2.2 Strategy for analysis, coding, and interpretation

The analysis was guided by a purpose-built codebook created to extract the most relevant information from the literature. The codebook offered a structured framework for analysing scholarly work at the intersection of public governance (including MLG) and co-creation. It addresses both the conceptual and empirical aspects of the topic, encompassing twelve variables:

1. **Nature of the contribution** – Differentiates between empirical studies that present original data and theoretical works that offer conceptual or analytical insights.
2. **Policy field** – Classifies content according to the Comparative Agendas Project (CAP) policy codes (Baumgartner et al. 2019), enabling cross-sector comparison.
3. **Policy process stage** – Identifies the phase of the policy cycle involved (agenda-setting, decision-making, implementation, or multiple stages).
4. **Levels of government** – Indicates the level(s) of government involved, from local to global.
5. **Actors and roles** – Identifies the types of actors involved (e.g., public sector, political parties, citizens, interest groups, private firms, experts) and their functions (initiating, funding, facilitating, deciding, etc.). Interest groups are further categorised according to the INTERARENA coding scheme (Binderkrantz et al. 2020).
6. **Type and definition of “co-”-concepts** – Records which co-creation-related terms (e.g., co-design, co-production) are used, if any, and how they are defined.
7. **Benefits** – Documents claimed benefits of co-creation, including legitimacy, fairness, and policy effectiveness.
8. **Governance types** – Notes the governance models associated with co-creation (e.g., participatory, deliberative, multilevel).

9. **Limitations** – Addresses risks or downsides such as tokenism, co-optation, or exclusion.
10. **Challenges** – Identifies political, institutional, cultural, or practical barriers to implementation.
11. **Approaches and methods** – Describes the practical tools and strategies employed (e.g., participatory design, workshops, digital platforms).
12. **Evaluation and assessment** – Determines whether and how co-creation outcomes are measured, including policy, service, democratic, or other impact indicators.

This coding framework aims at facilitating the reading towards a systematic comparison across studies, supported the identification of patterns in governance modes, actor roles, benefits, and challenges related to co-creation, and provided an evidence-base for policy-relevant synthesis. The coding process proceeded through a close reading of each article by the first author. Intercoder reliability is often a problem when it comes to empirical research in the social sciences. In this report, we decided not to proceed with several coders of all articles, because we are not focusing on systematically reviewing and aggregating empirical studies. Rather, the focus of this report is to interpret the literature to identify potential linkages between co-creation and multilevel governance. The co-authors of this text read the most cited papers from the initial database, as well as a random selection of 10 empirical papers each⁵, in order to obtain a deeper insight into the topic of the article and complement the papers read by the first author. The coding recorded relevant terminology and allowed extracting representative passages to identify items mentioned in the codebook. Where article authors supplied clear definitions, explanations, or findings aligning with the coding framework, these were captured verbatim to preserve meaning and enable comparison. In instances where such passages were absent, coders applied a conservative interpretive judgement anchored in the article's arguments, methods, and evidence base to populate the relevant fields. This procedure ensured that variation in how co-creation and co-production are described across disciplines did not prevent systematic analysis.

Following first-round coding, the first author synthesised the material by organising entries within each variable (e.g., benefits, risks, actors, governance modes, policy stages) and then clustering related codes to establish cross-cutting patterns. GPT-5 was used as a sorting and clustering assistant to group semantically similar items across studies. For example, in the analysis of co-creation benefits, targeted prompts⁶ were used to collate all explicit and implicit references related to concepts such as legitimacy or effectiveness. All machine-assisted groupings were subsequently reviewed and, where necessary, revised by the first

⁵ These papers were reviewed for contextual understanding but were not included in the final coding or analysis.

⁶ For instance, one of the prompts applied was: "Extract every explicit or implicit reference to legitimacy from the text verbatim, with corresponding source details and page numbers."

author to ensure fidelity to source texts and policy relevance. In this way, AI tools were applied not as a substitute for scholarly judgment but as a complementary mechanism to increase efficiency in the coding process. The validated groupings then served as the basis for interpretive analysis performed by the first author through which the principal patterns and themes emerging from the literature were identified. Finally, to support the interpretation of the findings that came out from the review, the authors also built on their previous knowledge of the literature. Therefore, this report also draws on scholarly literature on MLG, collaborative governance, as well as the wider public administration and public policy research.

3. Unpacking co-creation

This section sets out what is meant by co-creation in the context of public governance and situates it in relation to other “co-”-terms commonly used in the literature. It begins by mapping the terminology and its prevalence across the sample, before distinguishing co-creation from neighbouring concepts and identifying where they are used interchangeably and where more precise boundaries can be drawn. It then consolidates insights from various disciplinary traditions (e.g., policy studies, public and service management, science–policy interfaces, and justice-oriented approaches) to present co-creation as *a broad family* of collaborative practices. The section also outlines the practical distinctions between co-creation and co-production, positioning them in relation to collaborative governance and social innovation. Finally, it highlights two more specific perspectives, *value co-creation* and *knowledge co-production*, summarising their respective mechanisms, outputs, and success criteria. By clarifying the conceptual boundaries of co-creation, situating it within related collaborative traditions, and unpacking its distinct perspectives, this section provides a coherent foundation for understanding how co-creation is framed in the literature and sets the stage for examining its governance models, actor roles, and practical applications.

3.1 The presence of co-creation and related “co-” terms in public governance literature

The literature applies the concept of co-creation under various labels (most notably co-production) and, to varying degrees, associates it with other “co-” terms. For consistency, this report adopts “co-creation” as the overarching term to encompass these related concepts, unless otherwise specified.

Within the analysed sample, co-creation and co-production emerge as the dominant umbrella terms (see Table 1). Nearly half of the papers reference both terms, suggesting that many authors treat them as complementary or interchangeable, although few papers explicitly delineate conceptual differences between them (Voorberg et al., 2015; Puerari et al., 2018; Pauluzzo et al., 2024).

These terms are sometimes accompanied by additional qualifiers, most commonly “knowledge” and “value,” which together appear in 35 papers (32%). “**Knowledge**” is the more prevalent modifier, found in 25 papers, and more frequently linked to *co-production* (18 papers) than to *co-creation* (5 papers). In two cases, “knowledge” is paired with “*co-generation*,” particularly in reference to research-related processes. By contrast, “**value**” is less common (12 papers) and appears exclusively with *co-creation*, especially within the service innovation literature. Further distinctions, such as “**market co-creation of value**”

and “**joint knowledge co-production**”, also appear, but remain isolated occurrences (Hegger et al., 2012).

Table 1. Frequency of terms used to denote types of co-creation in the analysed dataset (n=111)

Term	Number of Papers	Frequency
co-production	86	77.5%
co-creation	78	70.3%
co-design	29	26.1%
co-governance	11	9.9%
collaboration	10	9.0%
co-management	9	8.1%
co-destruction	6	5.4%
co-implementation	6	5.4%
co-delivery	5	4.5%
co-generation	4	3.6%
co-construction	3	2.7%
co-development	3	2.7%
co-evaluation	3	2.7%
co-initiation	3	2.7%
co-assessment	2	1.8%
co-commissioning	2	1.8%

The third most frequent term is **co-design**. It is typically used in conjunction with other co-terms, particularly co-creation and co-production, and rarely occurs as a standalone concept. This term often refers to a specific stage within a broader co-creation process, emphasising joint design of services, policies, or research, sometimes in contrast to implementation (Donetto et al., 2015; Voorberg et al., 2017b).

Other terms, including **co-governance**, **co-management**, and **collaboration**, each appear in fewer than 10% of papers. **Co-governance** and **co-management** frequently occur together and generally signal a broader logic of shared decision-making and participation, rather than a distinct co-creation approach (Ackerman, 2004; Cash et al., 2006; Hambleton, 2019). **Collaboration** is used more generically and often without a clear conceptual definition.

Several niche terms also emerge. The analysis further identifies sporadic use of evaluative terms (**co-assessment**, **co-evaluation**) and process-specific verbs aligned with separate stages of decision-making (e.g., **co-initiate**, **co-commission**, **co-decide**, **co-deliver**, **co-implement**, **co-monitor**). These terms occur infrequently and appear context-specific, suggesting they are not part of the core vocabulary of co-creation.

In addition, some papers adopt concepts that implicitly align with the logic of co-creation or co-production but do not use these terms explicitly. Examples include references to **“service-delivery logic,” “joint production,”** or **“boundary work.”** For instance, Hegger et al. (2012) use the term joint production in the context of knowledge creation, arguing that “co-production” could be misinterpreted as referring to the co-production “of the social order.” Similarly, some papers focus on specific mechanisms such as **“living labs”** rather than engaging directly with co-creation terminology.

The literature we reviewed does not only point to co-creation, but also to its opposite. Notably, some of the papers use the term co-destruction, typically associated with the “co-destruction of value,” and primarily related to the work of a specific group of authors (Torfing et al., 2019; Sørensen et al., 2021; Røiseland et al., 2024a). This term indicates the negative side of co-creation, indicating that collaboration might have negative effects and does not automatically lead to better public policies and public services. This argument goes against a key point in the literature of service co-production, which argues that the co-production of public services by official providers and citizens is a necessary condition for effective public services (Osborne and Strokosch 2013).

3.2 Distinctions between co-creation and other “co-“ terms

As shown above, co-creation and co-production are often discussed in relation to a broader vocabulary of collaborative governance terms, including co-design, co-management, co-governance, collaboration, and participation. Authors frequently use these terms interchangeably, mainly to describe relatively similar phenomena, and often without a clear discussion of their conceptual boundaries. Indeed, Puerari et al. (2018) write how “a widely accepted generic and literal definition of co-creation is ‘making something together,’” but add that, “when the term is specified in more detail, a common conceptual agreement is not

apparent” (p. 4). Similarly, in their study of urban living labs (ULLs), Menny et al. (2018) note that various “terms such as co-creation, co-production, participation, involvement, empowerment [...] are used to describe the collaborative aspects of ULLs” (p. 69), with some authors explicitly adopting co-creation “as a broader term that includes both collaboration and empowerment” (p. 71).

This assertion is congruent with the conclusion of Voorberg et al. (2015), who provide the most comprehensive conceptual discussion in their systematic review of the literature on co-creation and co-production. The authors criticise the lack of conceptual clarity, arguing that various “co-” concepts are closely linked in the literature, used interchangeably, and only loosely defined. For instance, referring to the concepts of “co-creation” and “co-production” they observe that “to a large extent both are defined similarly”, the main difference being that “the co-creation literature puts more emphasis on co-creation as value” (p. 1340).

Likewise, in our sample, Nevens et al. (2013) use “co-creation” and “co-design” interchangeably (although not frequently) to refer to the joint formulation of innovative experiments. However, co-design is also employed more narrowly to refer to the design phase of the policy cycle and is often nested within broader co-creation frameworks (Donetto et al., 2015; Voorberg et al., 2017b). In this sense, it typically involves “a collaborative process in which as many stakeholders as possible have input” (Donetto et al., 2015, p. 234), participating directly in the development of public services, and, less frequently, public policies. Meanwhile, some scholars emphasise co-design’s iterative and user-centred nature, aimed at aligning institutional goals with citizen needs and lived experiences (Bate & Robert, 2007).

Other articles in our sample employ different parent concepts, starting with Ackerman (2004), who makes some sui generis distinctions. He considers that “co-governance”, i.e., inviting social actors to participate in the core activities of the state, is better suited for accountability than other solutions, including “co-production” and “co-management”, which, according to the author, are not truly participatory. A guest editorial for a special issue of the journal *Ecology and Society* (by the way one of the few pieces in the sample that tackles the multi-level aspect of governance head-on) uses the term “co-management” and defines it as “a continuum of arrangements that rely on various degrees of power- and responsibility-sharing between governments and local communities” (Cash et al., 2006, p. 9). In a related vein, Hambleton (2019), summarising the work of Brandsen and Pestoff (2006), highlights co-governance as involving “more strategic relationships” because “it involves stakeholders working together on policy formulation” (p. 272). Armitage et al. (2011) offer a slightly different definition (attributed to the “co-management literature”), stressing

collaboration and deliberation across multiple levels through “the collaborative process of bringing a plurality of knowledge sources and types together to address a defined problem” (p. 997).

Overall, co-governance and co-management are typically framed as forms of strategic or policy-level collaboration that involve elements of power-sharing and learning between state and non-state actors, as well as across governance levels. These approaches are considered particularly relevant in resource management and institutional design contexts, where shared authority and long-term cooperation are considered essential for successful outcomes (Brandsen & Pestoff, 2006; Ackerman, 2004; Cash et al., 2006; Hambleton, 2019).

Lastly, in the sampled literature, participation and collaboration are typically used as umbrella terms encompassing a wide range of engagement practices. Several scholars, however, distinguish co-creation as a more intensive and value-oriented form of participation, emphasising mutual learning and problem-solving (Voorberg et al., 2015). For instance, Torfing et al. (2021) characterise co-creation as “the process through which manifold public and private actors actively engage in the definition of the problem and challenges as well as the design and implementation of solutions” (p. 20), a process that, as de Jong et al. (2019) note, stands “in contrast to the broader term of citizen participation, which may also involve passive involvement” (p. 490). Such passive participation can take the form of consultation or information provision (feedback), where citizens have limited influence over outcomes (de Jong et al., 2019). Conversely, while collaboration involves joint action, it may lack the explicit focus on innovation and public value generation that characterises co-creation (Torfing et al., 2021).

3.3 Definitions and conceptualisations of co-creation

3.3.1 Co-creation as a multifaceted concept

As we have just seen above, the academic literature on co-creation and co-production spans multiple scholarly domains, resulting in a multifaceted and variably interpreted concept. These disciplinary variations reflect distinct normative orientations, analytical priorities, and policy concerns, each of which shapes how co-creation is defined and operationalised in theory and practice (Regal et al., 2024; Frantzeskaki et al., 2025; Puerari et al., 2018; Menny et al., 2018).

Within policy studies, co-creation is broadly understood as a collaborative and cross-actor/cross-sector process for defining policy problems and designing or implementing solutions aimed at enhancing public value (Torfing et al., 2016, 2019; Brandsen & Honingh, 2018; Ansell & Torfing, 2021a; Kabisch et al., 2022). The definition most commonly encountered within this literature frames co-creation as:

“a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences, and ideas that enhance the production of public value in terms of visions, plans, policies, strategies, regulatory frameworks, or services, either through a continuous improvement of outputs or outcomes or through innovative step-changes that transform the understanding of the problem or task at hand and lead to new ways of solving it” (Torfing et al., 2019, p. 802).

However, the full policymaking cycle is seldom addressed in practice. Empirical studies on co-creation/co-production often focus on policy implementation, with a particular emphasis on the design and delivery of public services (Voorberg et al., 2015; Osborne et al., 2016; Ege et al., 2025). Here, the central concern is the timing and role of citizen involvement, particularly in relation to service innovation and the creation of public value (Voorberg et al., 2015, 2017b; Mikkelsen & Røiseland, 2024).

This strand of the literature overlaps with the service-dominant logic scholarship, which conceptualises public value as co-created through interactions between service providers and users, emphasising “value-in-use” (Vargo & Lusch, 2008, 2014, 2016; Alves, 2013; Trischler & Charles, 2019). Namely, this perspective holds that “value is co-created through co-production” (Osborne et al., 2016, p. 641) and that “a product or service thereby incorporates value through its actual usage (value-in-use) rather than through its sale price (value-in-exchange)” (Alves, 2013, p. 674). In practice, this reorientation marks “a shift from an organisation-centric or product-centric perspective on service provision to one of organisations and clients co-creating value with each other in their interactions” (Giesbrecht et al., 2017, p. 173). In this view, co-creation is embedded in the everyday experiences of service encounters (Voorberg et al., 2017b) and mediated through co-design methods in which users “actively contribute to the design of their [services]” (Donetto et al., 2015, p. 234).

As discussed in the previous section, some contributions align co-creation with co-management and co-governance, emphasising strategic agenda-setting, institutional design, and power-sharing arrangements among state and non-state actors (Brandsen & Pestoff, 2006; Hambleton, 2019; Røiseland et al., 2024b; Cash et al., 2006). This perspective situates co-creation within broader governance transformations, including decentralisation, collaborative policymaking, and participatory institutional reforms (Sørensen et al., 2021; Regal et al., 2024; Van Gestel et al., 2023). Such transformations hinge on creating formal channels through which citizens can directly influence policy agendas and institutional practices. In this vein, Ackerman (2004) argues that the most effective way “to tap into the energy of society is through ‘co-governance,’ which involves inviting social actors to

participate in the core activities of the state” (p. 447), thereby embedding citizen engagement at the very heart of public decision-making.

A different body of work focuses more narrowly on science-policy interfaces and the relationship between science and politics, sometimes referred to as citizen science (Njue et al., 2019). Within this scholarship, co-creation is understood as the joint production of usable knowledge by researchers and societal actors (Njue et al., 2019; Armitage et al., 2011; Medema et al., 2017; Cvitanovic et al., 2019). For instance, Hegger et al. (2012) characterise joint knowledge production as a cooperation among scientists, policymakers and “other societal actors” in “the exchange, production, and application of knowledge” (2012, p. 53). This perspective specifically highlights the integration of plural knowledge systems and the processes of boundary work and mutual learning that underpin effective co-creation (Jasanoff, 2004; Tengö et al., 2014; Clark et al., 2016b; Turnhout et al., 2020). Here, Medema et al. (2017) define knowledge co-creation as “the collaborative process that brings together a plurality of knowledge sources and types to address a defined problem and build a systems-oriented understanding of that problem” (p. 5), while Tengö et al. (2014) emphasise “engaging in mutual processes of knowledge generation at all stages, including validation” (p. 581).

These contributions are frequently present in our sample, particularly in domains such as climate policy and sustainability transitions (Hegger et al., 2012; Wamsler et al., 2020; Frantzeskaki, 2019; Ziervogel, 2019). For instance, Cvitanovic et al. (2015, 2019) address co-production and other collaborative approaches applied to knowledge exchange between scientists, local groups, and decision-makers. The authors describe co-production of knowledge “as a common term within the climate change adaptation field,” where “researchers and research stakeholders interact directly via trusting relationships and with shared goals” (Cvitanovic et al., 2019, p. 22), while Clark et al. (2016b) add that “knowledge-making and decision-making in such systems are continually reshaping one another in what have been called relationships of ‘coproduction’” (p. 4571).

In parallel, a growing body of normative and justice-oriented scholarship frames co-creation through the lens of capabilities, empowerment, and social justice (Sherriff et al., 2019; Prandini & Ganugi, 2024). These approaches foreground issues of agency, equality, and inclusion, arguing that meaningful co-creation must go beyond process efficiency to actively redistribute voice, power, and opportunity within governance systems (Bergold & Thomas, 2012; Claassen, 2018; Røiseland et al., 2024a; Menny et al., 2018). As Prandini and Ganugi (2024) note, “the heart of co-creation is the concept of individuals exercising agency” as a foundation for social justice (p. 111), a principle that, following Donetto et al. (2015), seeks to transform “ordinary power relations between stakeholders” and foster “collective

ownership” (p. 234). Similarly, Sherriff et al. (2019) describe co-creation as a process that “recognises power imbalances” and “establishes equal relationships where diverse forms of knowledge and experience are valued and used synergistically to produce practical outcomes” (p. 372).

Taken together, these diverse disciplinary perspectives position co-creation and co-production not as a clearly defined activity, but as a family of collaborative practices in which interdependent public, private, civic, and scientific actors jointly define problems, design, and implement solutions, and/or generate knowledge, by integrating their distinct resources, competences, and forms of knowing through iterative and learning-oriented interactions (Torfing et al., 2021; Sørensen et al., 2021; Medema et al., 2017; Jean et al., 2018). These practices span stages from co-initiation and co-design to co-implementation, may occur in formal or informal arrangements, and aim to produce public value and/or value-in-use. They “integrate people into the entire development process as users and co-creators” in “complex and real contexts” (Voytenko et al., 2016, p. 46) while redistributing agency and opening decision processes across organisational and societal boundaries (Sørensen et al., 2021; Frantzeskaki et al., 2025; Pauluzzo et al., 2024).

3.3.2 Between co-creation and co-production

As noted before, the terms “co-creation” and “co-production” are frequently used interchangeably across the literature, although their usage often reflects different disciplinary traditions and contextual affinities. Notably, co-production tends to be more prevalent in public service delivery literature, where it refers to “the voluntary or involuntary involvement of public service users in any of the design, management, delivery and/or evaluation of public services” (Osborne et al., 2016, p. 640, quoting Bovaird, 2007, p. 847). In contrast, co-creation is more commonly used in public administration and management literature, where it refers to broader collaborative processes spanning agenda-setting, design, and problem-solving (Torfing et al., 2016, 2019, 2021; Osborne et al., 2016). Sørensen et al. (2021), for instance, define co-creation as “the process through which a broad range of interdependent actors engage in distributed, cross-boundary collaboration in order to define common problems and design and implement new and better solutions” (p. 5).

It is also worth noting that co-production has a longer scholarly presence, while co-creation is a more recent term that has gained traction in innovation, governance, and public administration literature. Despite ongoing conceptual debates, both terms reflect a shift away from hierarchical and provider-driven models towards more collaborative, user-centred, and context-responsive approaches to public service and policy development (Alford, 2002; Bovaird, 2007; de Jong et al., 2019). In this sense, co-creation “aims to open

up the public sector for valuable societal inputs and seeks to bring together actors with different views and opinions while constructively managing their differences” (Røiseland et al., 2024a, p. 16); it involves “governments and citizens actively collaborat[ing] on specific policy issues” (de Jong et al., 2019, p. 490).

While the two terms often overlap in practice, some scholarly contributions explicitly or implicitly differentiate them. A recurring distinction in the literature is that co-creation is associated with a more expansive governance function, “including but not limited to co-production” (Rodriguez Müller et al. 2021, 3), which involves joint problem-solving, innovation, and the generation of public value. In contrast, co-production typically focuses on the operational or implementation phase and “the involvement of citizens in the initiation and/or design of public services” (Voorberg et al., 2015, p. 1347).

This means that co-production may also be conceptualised as a subset of co-creation, most often aligned with the co-implementation stage of a broader co-creation process. For instance, in their comprehensive review, Voorberg et al. (2015) suggest differentiating between three types of co-creation based on the role of citizens therein and reserving the label “co-production” for one of these types, specifically when citizens act as co-implementers. Such an interpretation is consistent with the idea that “value is co-created through co-production” (Osborne et al., 2016, p. 641) and with broader framings that posit co-creation to include “the production and delivery of public services, across different types of interactions and exchanges, thus also covering the concept of co-production” (Acar et al., 2025, p. 1357).

Some other frameworks, however, treat the two as sequential stages, with co-creation preceding co-production in the policy or service delivery cycle. Haustein and Lorson (2023), for instance, explicitly apply the concepts of co-creation (encompassing co-initiation and co-design) and co-production (focused on co-implementation) to distinguish design from delivery in municipal risk governance. Similarly, Merickova et al. (2015) make a comparable distinction in the context of local public service innovation.

The extent to which these differentiations enhance conceptual clarity can be discussed, especially since the sequential view of co-production is not necessarily widespread. Take, for example, Bonsón et al. (2015), who studied the use of social media by local governments and citizen engagement (public service feedback). Referring to processes of public communication, the authors do not equate co-production with co-implementation by citizens. Rather, they describe “new forms of volunteerism and citizen co-production based on the use of ICTs and social media” (p. 54) and the broader “transition from e-government (citizen as customer) to we-government (citizen as partner)” as “a new kind of social contract” (p. 55), encompassing consultative and idea-generating (“citizen-to-

government”), informational (“government-to-citizen”), and self-organising (“citizen-to-citizen”) interactions online. In this sense, co-production is understood as a participatory governance mechanism that enables citizens to move beyond being passive service users and contribute actively to agenda-setting, knowledge sharing, and collaborative problem-solving.

Furthermore, within the “Service-Dominant Logic” perspective (which holds that public service value emerges through interactions among multiple actors, e.g., businesses, customers, public organisations, and citizens, who integrate their respective resources), co-production is considered an optional means during the service design phase, whereas value co-creation is viewed as an inevitable outcome that occurs whenever actors integrate resources, particularly during implementation/service use (Vargo & Lusch, 2008, 2014, 2017; McColl-Kennedy et al., 2012; Trischler & Charles, 2019). As Trischler and Charles (2019, p. 25) put it, co-production is “an optional process, whereas value co-creation is not”. Within this framework, co-production serves both as an analytical concept, describing user involvement in the design and delivery of public services, and as a normative principle, positioning co-production as a prerequisite for effective public service delivery.

Table 2 outlines some key conceptual differences between co-creation and co-production. However, it must be noted that these distinctions do not apply uniformly across the literature, given the predominantly interchangeable use of the two terms. The distinction is based on our review of the literature and is quite similar to what Ansell and Torfing (2021a, p. 215; 2021b, pp. 55–56) posit in their own distinction.

Table 2. Conceptual differences between co-creation and co-production

Dimension	Co-creation	Co-production
Scope	Spans the full policy/service cycle: initiation (agenda-setting), design, implementation.	Often linked to a single phase: delivery of a service or implementation of a pre-decided policy solution.
Degree of problem definition	Actors jointly define the problem or opportunity.	Problem is largely fixed, and the focus is on efficient execution/implementation.
Innovation emphasis	Strongly linked to creativity, prototyping, living labs, and “collaborative innovation.”	Less tied to innovation and more to service quality and effectiveness.

Dimension	Co-creation	Co-production
Value logic	Sometimes framed as value co-creation (outcome) with public value often highlighted.	Sometimes treated as the mechanism that enables value co-creation with knowledge co-production often highlighted, not the value itself.
Actor constellations	Broader: public agencies, firms, NGOs, citizens, communities, and scientists.	Narrower: service professionals and end users/citizens.
Power-sharing	Citizens as co-initiators and co-deciders.	Citizens contribute labour and knowledge but not strategic control.

3.3.4 From collaborative governance and social innovation to co-creation

Besides the differences between co-creation and co-production, several studies distinguish co-creation from other types of participatory governance, most notably collaborative governance and social innovation, while recognising that it incorporates key elements of both (Voorberg et al., 2015; de Jong et al., 2019; Torfing et al., 2021). In this sense, co-creation is seen as a hybrid model that combines the inclusive, power-sharing principles of collaborative governance with the forward-looking and solution-focused approach of social innovation, resulting in “the creation of long-lasting outcomes [through] an open process of participation, exchange, and collaboration” (Voorberg et al., 2015, p. 1334).

From the collaborative governance tradition, co-creation adopts a structured, inclusive, and often institutionalised process where public authorities work primarily alongside citizens, but also involve businesses, non-governmental organisations, and experts to define problems, design and implement solutions, and evaluate outcomes (Brandsen & Pestoff, 2006; Torfing et al., 2019; Regal et al., 2024; Sørensen et al., 2021; Van Gestel et al., 2023). This dimension underscores the importance of legitimacy, shared ownership, distributed leadership, and joint steering of public issues within complex, polycentric governance systems (Ansell & Torfing, 2021a; Hofstad et al., 2023; Acar et al., 2025; Torfing et al., 2021; Sørensen et al., 2021). For instance, Menny et al. (2018) emphasise the empowering aspect of collaboration, referring to co-creation as “the ability of citizens to actively engage in decision-making processes with at least equal power to influence them compared to other decision-making bodies” (p. 71).

From the social innovation tradition, co-creation incorporates an explicit focus on experimentation and creative problem-solving, often framed as a design-led innovation practice (Mikkelsen & Røiseland, 2024; Hofstad et al., 2023). In this capacity, it brings users

(typically citizens) together with practitioners and other “relevant and affected actors” in “collaborative processes that spur knowledge sharing, mutual learning, prototype design and testing, and co-ordinated implementation of innovative solutions” (Hofstad et al., 2023, p. 358). This dimension thus prioritises “stimulating joint learning and innovation” (Røiseland et al., 2024a, p. 16) and generating novel service and policy solutions that are grounded in real-world needs and experiences (Menny et al., 2018; Puerari et al., 2018).

Taken together, these collaborative and innovative dimensions position co-creation as a form of governance that not only *broadens participation* by actively engaging a wide range of societal actors, “including different stakeholder values, perspectives, and knowledge,” in joint decision-making and implementation, but also *deepens impact* through its explicit focus on generating “sustainable, lasting, and creative solutions” (Graversgaard et al., 2017, p. 7), enhancing public value, and addressing complex societal challenges in adaptive and innovative ways (Torfing et al., 2021).

3.3.5 Knowledge-focused versus value-focused perspectives on co-creation

Within the analysed literature, in addition to the broad understanding of co-creation as a hybrid of collaborative governance and social innovation, two more specific perspectives emerge:

1. A knowledge-focused perspective, more commonly associated with the term co-production, and
2. A value-focused perspective, typically linked to co-creation.

The knowledge-focused perspective is grounded in the recognition of a plurality of knowledge systems (i.e., scientific, local/lay/indigenous, practitioner, and expert knowledge) and the imperative to integrate these diverse forms of knowing to effectively tackle complex societal challenges (Djenontin & Meadow, 2018; Latulippe & Klenk, 2020; Turnhout et al., 2020; Armitage et al., 2011; Chambers et al., 2021). Specifically, Armitage et al. (2011) define knowledge co-production (by local actors and experts) as “the collaborative process of bringing a plurality of knowledge sources and types together to address a defined problem and build an integrated or systems-oriented understanding of that problem” (p. 996). A key premise of this view of co-production is that “to address complex problems, scientific expertise alone is not sufficient and that the contribution of stakeholders’ knowledge is vital to create knowledge that is not only of scientific high quality but also socially robust” (Turnhout et al., 2020, p. 15).

The knowledge-focused perspective also emphasises collaborative knowledge generation through iterative social learning processes that cut across disciplines, institutions, and communities (Kabisch et al., 2022; Greenhalgh et al., 2016; West et al., 2019; Jean et al.,

2018). Jean et al. (2018), for instance, put forward “the theory of dynamic knowledge co-creation,” explaining its principal aim as “crossing boundaries by including diverse experts and practitioners with different knowledge and interests, representing diverse social practices, and coming from diverse functions, organisations, groups, and networks” (p. 1012).

Therefore, key features of this perspective include:

- Transdisciplinarity and mutual learning among actors with different epistemic backgrounds (Tengö et al., 2014; Nevens et al., 2013; Ziervogel, 2019).
- Boundary work to bridge institutional, cultural, and disciplinary divides (Clark et al., 2016a, 2016b).
- A strong orientation towards producing actionable, context-sensitive, and socially legitimate knowledge (Cvitanovic et al., 2019; Chambers et al., 2021; Stephenson et al., 2019).

The expected outcomes encompass the production of usable knowledge, shared problem framings, and policy-relevant evidence that can inform decision-making (Wyborn et al., 2019; Chambers et al., 2021; Armitage et al., 2011; Cvitanovic et al., 2019). Rather than focusing solely on the development and delivery of public services, this perspective views co-creation to involve “participatory and collaborative processes that aim to integrate different ways of knowing and jointly develop knowledge that is actionable and that contributes to effective and legitimate solutions and the transformation of society” (Turnhout et al., 2020, p. 15). In short, by providing “processes and forums for deliberation in which everyone [brings] experience, expertise, and knowledge” (West et al., 2019, p. 546), co-creation emerges as a means to generate a deeper understanding of policy issues, build trust across knowledge communities, and align policy interventions with the complex realities on the ground (Greenhalgh et al., 2016; Turnhout et al., 2020).

In contrast, the value-focused perspective focuses on the interactive relationship between service providers and beneficiaries, particularly in the context of public service design and delivery (Osborne et al., 2016; Vargo & Lusch, 2016; Yu et al., 2019; Pauluzzo et al., 2024). This perspective emphasises the joint creation of value through direct engagement between government agencies and citizens, in which traditional producer–consumer hierarchies are reconfigured (Prahalad & Ramaswamy, 2004; de Jong et al., 2019; Trischler & Charles, 2019). In the words of Vargo and Lusch (2017), “value is cocreated by multiple actors, always including the beneficiary” (p. 47).

At the centre of the value-focused perspective is the idea that public value is not created at the point of service delivery alone but emerges through use instead (value-in-use), i.e., in the

lived experience of service users, the relational processes of service interactions, and the contextual adaptation of service solutions (Pralhad & Ramaswamy, 2004; Payne et al., 2008; Grönroos & Voima, 2013; Vargo & Lusch, 2016; Alves, 2013; Giesbrecht et al., 2017). Service encounters are thus organised as co-creation experiences, with public organisations providing “value co-creating opportunities” in interaction (Giesbrecht et al., 2017, p. 173). Through dialogue, transparency, access, and shared responsibility, public institutions and citizens collaboratively integrate their resources, knowledge, and perspectives to co-produce outcomes that matter (John & Supramaniam, 2024; Vargo & Lusch, 2017; Giesbrecht et al., 2017).

Key features of this perspective include:

- Blurring of institutional roles between providers and users (de Jong et al., 2019; Osborne et al., 2016).
- Resource integration across institutional and individual boundaries (Vargo & Lusch, 2016; Trischler & Charles, 2019).
- A focus on interactive processes that build trust and responsiveness (Bradley & Mahmoud, 2024; Sørensen et al., 2021).

The expected outcomes are tangible expressions of public value, including improved services, enhanced legitimacy, and an enhanced quality of life for communities (Acar et al., 2025; Sørensen et al., 2021; Ansell et al., 2024; Scognamiglio et al., 2023). They also encompass more responsive and effective policies since some scholars view co-creation as a way to “enhance the production of public value in terms of visions, plans, policies, strategies, [and] regulatory frameworks” (Torfing et al., 2019, p. 802). In short, this perspective positions co-creation as a process of service innovation and democratic participation, where meaningful engagement directly contributes to outcome quality and legitimacy (Torfing et al., 2019; Hofstad et al., 2023; Ansell et al., 2024).

Table 3 provides an overview of some basic conceptual differences between knowledge- and value-focused perspectives on co-creation/co-production. Based on these distinctions, we can define knowledge co-production as a transdisciplinary and participatory process in which interdependent actors (including researchers, policymakers, practitioners, and citizens) jointly frame problems and generate, validate, and translate multiple forms of knowledge to produce actionable, legitimate, and context-robust insight/evidence for policymaking (Armitage et al., 2011; Medema et al., 2017; Chambers et al., 2021; Clark et al., 2016b; Hegger et al., 2012; Turnhout et al., 2020). As to value co-creation, it can be defined as an interactive process in which multiple actors (typically government agencies and citizens) combine their complementary resources and experiences across design, delivery, and use of public services so that public value is realised “in use” and continually

enhanced (Vargo & Lusch, 2016; Trischler & Charles, 2019; Osborne et al., 2016; John & Supramaniam, 2024; Ma et al., 2019; Giesbrecht et al., 2017).

Table 3. Differences between knowledge- and value-focused perspectives on co-creation

Dimension	Knowledge co-creation	Value co-creation
Primary goal	Generate actionable, usable, legitimate, and context-relevant knowledge for joint problem-solving and decision-making	Generate mutual benefit (value-in-use/public value) through joint interactions
Core actors	Researchers, practitioners, citizens, policymakers	Service providers (government agencies) and users (citizens), also broader stakeholder constellations (multi-actor networks) in public services
Core mechanism	Mutual learning, epistemic integration, boundary-spanning	Resource integration, service interaction, experiential exchange
Primary outputs	Problem framings, evidence, indicators, joint understanding	Improved experiences, outcomes, services, sometimes market value
Success indicators	Usability of knowledge, shared understanding, credibility, legitimacy, social learning	Perceived value-in-use, stakeholder satisfaction, enhanced public value, societal impact, effectiveness

3.4 Co-creation of public value

Co-creation is widely recognised in the literature for its role in generating and enhancing public value. Besides public value in its general sense, three interrelated forms of value emerge:

1. Value-in-use, reflecting the direct benefits experienced by service users.
2. Knowledge as a value, where co-produced knowledge itself becomes a valuable and actionable resource.
3. Intrinsic value of co-creation, derived from co-creation's democratic, capability-building, and community-strengthening functions.

3.4.1 Public value and value-in-use

A central benefit consistently highlighted across the co-creation literature is its contribution to enhancing public value in its various dimensions (de Jong et al., 2019; Osborne et al.,

2016; Torfing et al., 2021; Acar et al., 2025; Ansell et al., 2024; Ege et al., 2025). This concept is typically understood in two interconnected forms (Giesbrecht et al., 2017; Alves, 2013; Donetto et al., 2015; Acar et al., 2025):

- Public value in a broad societal sense, and
- Value-in-use, referring to the direct experience of service users.

In its broader sense, public value refers to the creation of objectively better outcomes of public policies and public services that advance commonly agreed collective goals while also improving the democratic quality of governance processes (de Jong et al., 2019; Osborne et al., 2016; Torfing et al., 2021; Ansell et al., 2024). Specifically, public value emerging from co-creation encompasses the following normative and functional aspects (Gravesgaard et al., 2017, Ackerman, 2004; Merickova et al., 2015; Menny et al., 2018; Ansell et al., 2024):

- Effectiveness: services and policy solutions work as intended and deliver meaningful outcomes;
- Legitimacy and trust: decisions are broadly accepted, supported, and seen as procedurally fair;
- Equity, justice, and inclusion: benefits are distributed fairly, marginalised voices are heard, and diverse needs are adequately addressed;
- Accountability and transparency: roles and responsibilities are clear, decision-making processes are open to scrutiny;
- Social cohesion and resilience: communities are strengthened, collaborative ties are built, and collective capacity to adapt is increased; and
- Long-term sustainability: solutions are environmentally sound, fiscally responsible, and institutionally durable over time.

Co-creation is noted to contribute to this broader public value by fostering collaboration across stakeholders early in the policy or service cycle, which leads to better fit, reduced resistance, and ultimately greater uptake and implementation success (Greenhalgh et al., 2016; Torfing et al., 2024; de Jong et al., 2019). These dynamics reinforce two core pillars of public value, which are effectiveness and trust (Torfing et al., 2021; Ribeiro et al., 2019).

Closely related is the concept of value-in-use, which captures the immediate and subjective value that citizens derive from interacting with public services. Rather than focusing solely on formal outcomes, value-in-use refers to the lived experience of services, i.e., how well they align with users' needs, how satisfying and empowering they are, and how they contribute to individual wellbeing, convenience, and sense of control (Osborne et al., 2016). Indicators of value-in-use include personalised service delivery, user satisfaction,

perceived service quality, accessibility, and empowerment (Giesbrecht et al., 2017; Merickova et al., 2015; Nabatchi et al., 2017). Co-creation enhances value-in-use through participatory and transparent processes that improve the responsiveness and relevance of services (Pauluzzo et al., 2024; Szarek-Iwaniuk & Senetra, 2020; Alves, 2013). These improvements make services being perceived more aligned with citizens' lives, thereby reinforcing both their practical value and their perceived legitimacy (de Jong et al., 2019; Menny et al., 2018; Ansell et al., 2024).

Overall, co-creation's value then lies not only in *what* it produces but also *how* it is produced. By embedding principles of fairness, inclusion, responsiveness, and mutual learning into the structure of service design and delivery, co-creation advances both public value and value-in-use, bridging systemic goals with individual experience (Torfing et al., 2021; Sørensen et al., 2021; Voorberg et al., 2015).

3.4.2 Knowledge as a value

In the co-creation literature, particularly in the part that focuses on knowledge production, knowledge is consistently treated not just as an input for co-creation processes, but also as a value in its own right. This particularly happens when the co-created knowledge is salient (relevant to the problem at hand), credible (scientifically and methodologically sound), and legitimate (accepted as fair and inclusive) (Hegger et al., 2012; Cvitanovic et al., 2019; Clark et al., 2016b). The literature argues that co-creation processes generate this kind of value-rich knowledge by integrating diverse ways of knowing (scientific, local, professional, lay/experiential, Indigenous, etc.) into shared understandings and decision-making (Tengö et al., 2014, 2017; Chambers et al., 2021; Turnhout et al., 2020). This is achieved through practices such as jointly defining problems with users and stakeholders (which enhances salience), co-producing and validating data (which strengthens credibility and capacity), and using boundary objects as well as open infrastructures to facilitate dialogue and convergence (which builds legitimacy) (Hegger et al., 2012; Medema et al., 2017; Jean et al., 2018; Karpouzoglou et al., 2016). Including marginalised voices ensures that the evidence base is socially just, while iterative learning in real-world settings grounds the knowledge in practical effectiveness (Zafra-Calvo et al., 2020; Leino & Puumala, 2021; Greenhalgh et al., 2016). The tangible results include more widely accepted policies, the creation of new institutions or service models, changes in professional practices, and increased public confidence in policy decisions (Chambers et al., 2021; Greenhalgh et al., 2016; Newell et al., 2019). In short, co-produced knowledge serves as a bridge between participation and impact by turning participatory engagement into both improved user experiences (value-in-use) and more effective, trusted, and equitable outcomes (public value) (West et al., 2019; Hegger et al., 2012; Cvitanovic et al., 2019).

3.4.3 Co-creation as a value in itself

Across the literature, co-creation is not only seen as a means to achieve public value, but as a form of public value per se⁷ (Ansell et al., 2024; Acar et al., 2025; Ege et al., 2025). As a democratic practice, co-creation constitutes value by opening new and meaningful avenues for participation, therefore countering democratic fatigue, resisting populist narratives, and revitalising citizen–state relations (Røiseland et al., 2024a). It deepens democracy not merely by delivering appropriate outcomes, but by enabling people to take part in shaping those outcomes (Ansell et al., 2024). This participatory act is itself an expression of collective agency and legitimacy (Torfing et al., 2021).

These researchers argue that co-creation also carries intrinsic value as a capability-building practice since it embodies elements such as mutual trust, shared understanding, and institutional learning (Sørensen et al., 2021; Voorberg et al., 2017b; Prandini & Ganugi, 2024). In this sense, co-creation strengthens the connective tissue of public governance, including stakeholder relationships, confidence, and collaborative capacity (Torfing et al., 2019; Greenhalgh et al., 2016). Furthermore, co-creation functions as a leadership and authorisation mechanism, helping to shape the “authorising environment,” i.e., the informal mandates and shared understandings that legitimise action in public institutions (Sørensen et al., 2021). Through this lens, co-creation is not simply about implementing policies or delivering services, but about fostering alignment around what matters and why, making it an inherently political and values-based process (Torfing et al., 2021).

Finally, the literature occasionally highlights co-creation’s intrinsic wellbeing value, i.e., the very act of contributing, collaborating, and exercising agency in shaping public life fosters a sense of belonging, empowerment, and shared purpose (Finsterwalder & Kuppelwieser, 2020; Sherriff et al., 2019). Participating in co-creation improves not only the services or policies involved, but also empowers the people and communities engaged in the process (Leino & Puumala, 2021; Menny et al., 2018). Overall, co-creation is not just a means to public value, but an inherently valuable process, which embodies the democratic, relational, and civic ideals that make public governance meaningful and legitimate (Ansell et al., 2024; Mikkelsen & Røiseland, 2024).

This observation reflects a dominant view in the literature. As noted by Voorberg et al. (2015) in their systematic review, there is an implicit assumption that citizen involvement is inherently virtuous, akin to democracy or transparency. In this perspective, co-creation is treated not merely as an instrument for achieving policy outcomes but as a normative goal

⁷ It is important to point out that the co-creation literature we reviewed does not focus on clashes between values, as they happen in debates between political parties. Rather, the focus of the co-creation literature is on a political consensus with an emphasis on the value of co-creation for problem-solving.

in itself, a process considered intrinsically appropriate and desirable regardless of its practical results.

4. Co-creation and public governance

This section synthesises the current state of the art on co-creation as a form of participatory governance, presenting the conceptual frameworks, governance models, and actor configurations that underpin the analysis in this report. It begins by identifying three foundational features that distinguish co-creation from other participatory approaches, establishing clear criteria for recognising genuine co-creation efforts. It then maps the governance models most frequently associated with co-creation in the literature, reporting their relative prevalence, and outlines five dominant perspectives on the relationship between co-creation and governance. This mapping is used to examine the enabling and constraining governance logics that shape co-creation, highlighting the institutional and contextual conditions under which it is most likely to generate durable public value. The section also profiles the range of actors engaged in co-creation and details the roles and functions typically performed. By combining an overview of governance models with a structured account of actor participation and interaction, the section provides an integrated understanding of who is involved, how responsibilities are distributed, and the governance conditions most conducive to effective co-creation practice.

4.1 What is the role of co-creation in public governance?

4.1.1 Key features of co-creation as a form of participatory governance

The literature broadly agrees that co-creation is distinguished from other forms of participatory governance by three foundational elements, which together define its unique character and transformative potential (Sørensen et al., 2021; Mikkelsen & Røiseland, 2024; Ege et al., 2025):

1. *Citizen involvement across institutional boundaries.* Co-creation is first and foremost characterised by the direct involvement of citizens (or at least residents), often in collaboration with public authorities and other stakeholders, typically beyond the confines of a single sector. The value of co-creation arises from the interaction of diverse perspectives, knowledge, data, and capabilities that citizens bring (Claassen, 2018; Torfing et al., 2019; Acar et al., 2025).
2. *Active participation.* Co-creation depends on the active engagement of participants, particularly service users or, more broadly, citizens. Rather than being passive recipients, citizens are expected to contribute effort, ideas, knowledge, or data, whether through identifying needs, suggesting improvements, co-designing services, or generating local evidence (Brandsen & Honingh, 2016; Voorberg et al., 2015).
3. *Creation of public or stakeholder value.* Successful co-creation must yield a tangible benefit to the public or a specific stakeholder group. This benefit may take the form

of public value, customer value, or actionable knowledge that enhances societal outcomes. The underlying purpose is not merely procedural inclusion, but the generation of value through collaborative interaction (Jasanoff, 2004; Vargo & Lusch, 2016; Trischler & Charles, 2019).

Together, these three core elements (cross-institutional collaboration, active citizen contribution, and creation of public value) serve as the principal criteria for identifying and evaluating genuine co-creation efforts across policy and service domains.

4.1.2 Types of governance discussed in relation to co-creation

Several governance types are most frequently linked to co-creation in the literature, as summarised in Table 4, each of which entails specific opportunities and challenges for the design and implementation of co-creation processes. These terms denote various aspects of co-creation in public governance, and they also overlap with one other. The most prominent group consists of collaborative and participatory approaches, often described using terms such as democratic, deliberative, community-led, inclusive, citizen-centric, etc. (Ansell et al., 2024; Sørensen et al., 2021; Wang & Ran, 2025). Within these types, co-creation is based on the assumption that policy solutions gain legitimacy and effectiveness when lived experience and professional expertise are brought together in a structured dialogue and “carefully ‘neutral’ meetings that produce shared knowledge” (Clark et al., 2016a, p. 4619; Cvitanovic et al., 2015; Greenhalgh et al., 2016; Chambers et al., 2021). In practice, this includes methods such as co-design workshops, citizens’ forums, stewardship arrangements, and feedback loops that demonstrate how public input influences decisions (Donetto et al., 2015; Sørensen et al., 2021; Medema et al., 2017; Lee-Geiller & Lee, 2019). While these approaches can face challenges such as unequal participation, consultation fatigue, or symbolic engagement, when implemented robustly, they tend to strengthen trust, improve the fit of solutions to local needs, and build capacity in the communities concerned (Turnhout et al., 2020; Wamsler et al., 2020; Sherriff et al., 2019; Bovaird, 2007).

Table 4. Frequency of different governance types associated with co-creation in the analysed dataset (n=111)

Governance Type	Number of Papers	Frequency
Collaborative and participatory governance	59	53%
Multilevel and polycentric governance	28	25%

Governance Type	Number of Papers	Frequency
New Public Governance	21	19%
Digital and platform governance	17	15%
Network and meta-governance	13	12%
Spatial governance	9	8%
Sector governance	7	6%

A second major (yet much less frequent) strand reflects multi-level and polycentric governance approaches (Homsy et al., 2019; Alford, 2014; Cash et al., 2006). This perspective responds to the challenge that many policy problems transcend jurisdictional boundaries (both horizontally, at the same level, and vertically, across levels) necessitating authority and action to be coordinated (Cash et al., 2006; Homsy et al., 2019). Effective responses require local authorities to “coordinate in a multilevel manner with each other, with regional or national governments, and with other non-state actors to be successful” (Homsy et al., 2019, p. 572). Examples of co-creation within these arrangements include intermunicipal boards, watershed councils, metropolitan coordination frameworks, and cross-sector instruments that enable local experimentation to contribute to broader policy objectives (Graversgaard et al., 2017; Medema et al., 2017; Voytenko et al., 2016). The primary benefit of co-creation here lies in greater coherence, with fewer policy conflicts, easier scaling of pilot initiatives, and clearer alignment between local projects and broader/higher-level goals (Scognamiglio et al., 2023; West et al., 2019). However, the process also faces challenges related to overlapping responsibilities, contested resource allocation, and diffuse accountability (Homsy et al., 2019; Alford, 2014).

A third cluster centres on public-sector governance paradigms, particularly New Public Governance (NPG) (Sørensen et al., 2021; Voorberg et al., 2017a). For instance, Sørensen et al. (2021) write that NPG represents “an umbrella term for different perspectives on interactive governance such as network governance, collaborative governance, and co-creation” (p. 3). This approach positions the state as an orchestrator that facilitates partnerships, mediates trade-offs, and enables collaborative processes, rather than relying solely on hierarchical control, such as in Traditional Public Administration (TPA), or market contracting in New Public Management (NPM) (Torfing et al., 2024; Røiseland et al., 2024a; Van Gestel et al., 2023). In other words, NPG provides a framework and mandate for public managers to convene collaborative processes, including co-creation (Torfing et al., 2021;

Sørensen et al., 2021). Indeed, in some settings, “governmental bodies are used to collaborating with non-governmental bodies, resulting in special budgets and funds being available for innovation and collaboration” (Voorberg et al., 2017b, p. 189). Related studies likewise situate recent reforms around “co-production of public services, the co-design and co-implementation of public policies and the co-creation of new solutions to public problems” (Dunlop et al., 2020, p. 373). Nonetheless, NPG often operates in tension with residual NPM incentives that prioritise efficiency and cost control over learning and relationship-building (Røiseland et al., 2024a; Regal et al., 2024; Torfing et al., 2024). Where these tensions are managed effectively, NPG offers the administrative foundation required for sustained co-creation practice (Voorberg et al., 2017a; Sørensen et al., 2021; Mikkelsen & Røiseland, 2024).

Digital and platform governance forms a notable secondary strand (Pauluzzo et al., 2024; Linders, 2012). Digital platforms, e-governance tools, and data-driven approaches promise to extend reach, increase speed, and strengthen robustness of co-creation initiatives by mapping inputs at scale, opening data, and tightening feedback loops between users and services (Lee-Geiller & Lee, 2019; Yu et al., 2019; Zhang et al., 2023). Examples include various forms of “ICT-driven collaboration and interaction between citizens and government administrations” (Zhang et al., 2023, p. 372), such as participatory mapping, civic reporting, and open-data dashboards (Szarek-Iwaniuk & Senetra, 2020; Haustein & Lorson, 2023; Lee-Geiller & Lee, 2019). These tools broaden the forms of participation available, “increase transparency, and promote communication between the government and the citizens” (Szarek-Iwaniuk & Senetra, 2020, p. 3). However, digital tools are not a substitute for more robust governance instruments. Where governance is inclusive and accountable, digital platforms enhance participation, but where it is not, platforms amplify existing divisions (Wamsler et al., 2020; Lee-Geiller & Lee, 2019). Risks include digital exclusion, privacy concerns, provider-centric design, and dependency on specific platforms (Linders, 2012; Zhang et al., 2023). The most effective cases combine online tools with offline support and clear protocols for data stewardship (Linders, 2012; Medema et al., 2017).

Network and meta-governance approaches also appear, although less frequently (Sørensen et al., 2021; Torfing et al., 2021). These models emphasise the role of government in designing the conditions for co-creation rather than directing every decision (Torfing et al., 2021). Their premise is that “collective control” enshrined in “strong governance arrangements” is “integral to co-production” (Sherriff et al., 2019, p. 378). This involves establishing forums, rules, and incentives, as well as brokering relationships and facilitating the resolution of conflicts (Torfing et al., 2021; Clark et al., 2016a). A practical implication is the “need to broaden the traditional focus on intra-organisational management to emphasise the governance or stewardship of interorganisational and even cross-sectoral

relationships” (Trischler & Charles, 2019, p. 21). Such co-creation approaches require strong facilitation skills, diplomatic capacity, and mechanisms for ensuring accountability (Cvitanovic et al., 2015; Sherriff et al., 2019). Where these are present, co-creation can also support co-regulation, acting as “a beneficial linkage between government, producer, and consumer” (Ma et al., 2019, p. 1156). However, when poorly managed, co-creation risks evolving into symbolic deliberation without tangible outcomes (Turnhout et al., 2020).

Despite their limited presence in the literature, place- (spatial) and sector-specific governance perspectives remain important (Fratini et al., 2019; Newell et al., 2019; Vellema & Van Wijk, 2015). These approaches focus on aligning co-creation initiatives with the ecological, social, political, and economic context of the problem under deliberation (Dushkova & Haase, 2020; Armitage et al., 2011; Ziervogel, 2019). Examples include urban governance, environmental and ecosystem governance, energy transitions, and governance of specific value chains (Voytenko et al., 2016; Cash et al., 2006; Vellema & Van Wijk, 2015). For instance, in urban sustainability, mixed models “based on co-creation and co-production” are noted to constitute “a novel collaborative mode of urban governance” (Dushkova & Haase, 2020, p. 15). Initiatives such as Urban Living Labs exemplify this approach, providing “an arena for reflexive, adaptive, and multi-actor learning environments” (Puerari et al., 2018, p. 1). Sectoral cases exemplify the same logic, particularly in energy transitions, where governance structures “that are participatory and inclusive” (Lennon et al., 2019, p. 3) and enabling regimes that facilitate “experimentation and learning” (Karnøe & Garud, 2012, p. 746) are noted as essential for sustaining the transition process.

Within these types of governance, co-creation processes are particularly effective where concrete assets and actors must be mobilised, such as in nature-based solutions, mobility systems, housing retrofits, or circular economy initiatives (Frantzeskaki, 2019; Cousins, 2021; Zhang et al., 2023; Fratini et al., 2019). However, these initiatives can face challenges when sectors operate in isolation or when capacity varies significantly between jurisdictions (Homsy et al., 2019; Fratini et al., 2019).

Taken together, the literature indicates that the dominant orientation in co-creation is participatory and collaborative, supported by enabling frameworks of multi-level coordination, NPG-style orchestration, and network or meta-governance (Sørensen et al., 2021; Homsy et al., 2019; Torfing et al., 2021; Van Gestel et al., 2023). These approaches are increasingly mediated by digital platforms and grounded in place- and sector-specific applications (Pauluzzo et al., 2024; Linders, 2012; Newell et al., 2019; Vellema & Van Wijk, 2015). Therefore, most effective governance models in enabling co-creation are those that align scale with local context, integrate technological tools with inclusive engagement, and

match institutional mandates with the complex realities of collective problem-solving (Cash et al., 2006; Lee-Geiller & Lee, 2019; Sørensen et al., 2021; Armitage et al., 2012).

4.1.3 Theoretical linkages: the uses of co-creation in the public governance literature

Depending on the governance lens adopted, the role and position of co-creation in relation to governance are presented differently in the literature. Table 5 identifies the five most dominant perspectives on the relationship between co-creation and governance.

Table 5. Uses of co-creation in public governance research

Co-creation perspective	Description	Purpose	Example
Co-creation as a governance mode/logic	Co-creation is positioned as a primary way of governing, particularly within open governance and NPG frameworks, where the state steers through relationships and shared problem-solving rather than command or contracting.	Mobilise societal resources, build legitimacy, and foster collaborative stewardship.	Open governance platforms for agenda-setting, data sharing, and collective problem definition.
Co-creation as an operational expression of collaborative/participatory governance	Co-creation is how collaborative/ participatory governance actually runs: it provides the arenas, tools, and processes that enable stakeholder engagement.	Translate governance frameworks into structured processes, forums, and decision tools.	Citizen juries and forums (e.g., deliberative publics) structured to feed directly into policy cycles.
Co-creation as an innovation-focused version of collaborative governance	Distinct from standard collaboration and consensus-building, co-creation prioritises novelty, distributed leadership, and iterative experimentation.	Broaden participation to include non-traditional actors and innovate together to produce new solutions.	Pilot projects and transition experiments linking research, policy, and community prototypes.
Co-creation as a boundary-spanning governance mechanism	Co-creation functions as the mechanism moving knowledge and intent across boundaries and linking local arenas to higher-tier governance.	Transfer knowledge, coordinate action, and align priorities across jurisdictions, sectors, and scales.	Bridging organisations and linking local initiatives with higher-tier governance.
Co-creation as an adaptive governance practice	Co-creation operates as a continuous loop of sensing, testing, and adjusting strategies that can solidify into co-governance arrangements.	Enable responsive and iterative adjustment of strategies through	Joint monitoring systems involving citizens and institutions.

First, in some accounts, co-creation is framed as a governance mode in its own right (Frantzeskaki et al., 2025; Røiseland et al., 2024a). For instance, within the open governance literature, citizen participation in co-creation processes is described as “a manifestation of open governance systems, in which governmental institutions mobilise and utilise resources in society to make societal improvements” (de Jong et al., 2019, p. 491). Similarly, in the context of New Public Governance (NPG), co-creation is understood as the organising logic for steering policy systems and coordinating public affairs through inter-actor relationships rather than through hierarchical command or contractual control (Sørensen et al., 2021; Torfing et al., 2024). For instance, recent work notes that “co-creation has started to be considered as a key governance tool in line with bureaucratic steering and competitive performance management” (Røiseland et al., 2024a, p. 18). In other words, just as hierarchical command defines TPA and contractual control characterises NPM, co-creation constitutes the core governance logic of NPG (Torfing et al., 2021; Sørensen et al., 2021). Public managers are expected to cultivate inter-organisational connections, align agendas across actors, and engage in transparent and collective learning processes and collaborative value generation together with citizens (Torfing et al., 2021; Sørensen et al., 2021; Wang & Ran, 2025). While co-creation is often used alongside traditional bureaucratic and market-based instruments, the underlying aspiration in these accounts is to govern with, rather than for, citizens (and other stakeholders) (Røiseland et al., 2024a; Hambleton, 2019).

Second, a substantial portion of the literature situates co-creation as the operational expression of collaborative or participatory governance on the ground (Scognamiglio et al., 2023; Barrios et al., 2020). Under this interpretation, which recognises that co-creation is ultimately “coordinated through actor-generated institutions and institutional arrangements” (Vargo & Lusch, 2016, p. 18), governance models provide the mandate, while co-creation provides the concrete arenas, tools, and practices through which collaborative engagement occurs (Voytenko et al., 2016; Puerari et al., 2018; Torfing et al., 2021). Examples include partnering contracts that combine formal incentives with trust-based collaboration, watershed councils and environmental co-management networks, participatory budgeting, and co-design processes in health services (Eriksson et al., 2017; Medema et al., 2017; Ackerman, 2004; Donetto et al., 2015). In these cases, co-creation takes tangible institutional forms such as urban living labs, advisory councils, and co-management forums, and employs shared objects such as maps, models, scenarios, and serious games (Voytenko et al., 2016; Medema et al., 2017; Trischler & Charles, 2019; Newell

et al., 2019; Jean et al., 2018). These spaces and tools are designed to enable joint learning, reveal trade-offs, improve transparency and legitimacy, and carry decisions forward (West et al., 2019; Chambers et al., 2021; Cvitanovic et al., 2015). For instance, democratic instruments such as participatory budgeting exemplify “co-governance for accountability,” where citizens “are invited inside the governmental apparatus itself” (Ackerman, 2004, p. 451).

Third, some contributions explicitly distinguish co-creation from “standard” or “conventional” collaborative governance (Røiseland et al., 2024b; Hofstad et al., 2023). For instance, Torfing et al. (2021) argue that “co-creation can be viewed as a subset of collaborative governance emphasising the problem-focused and distributed collaboration between a diverse set of actors” (p. 12). Frantzeskaki et al. (2025) similarly posit co-creation as “a novel form of governance that supports evidence-based policy making in gearing up innovative pathways” (p. 8). In other words, while collaborative governance is often associated with alignment and consensus-building among organised stakeholders, co-creation adds an emphasis on novelty and experimentation (thus aligning more closely with social innovation), as well as distributed leadership (Torfing et al., 2019; 2024; Hofstad et al., 2023). It extends design authority to lay actors, embeds iterative learning, and legitimises adaptive experimentation through approaches such as living labs, urban transition experiments, and game-based scenario testing (Puerari et al., 2018; Nevens et al., 2013; Ansell et al., 2024; Jean et al., 2018; Cousins, 2021). In this framing, co-creation is seen as a version or subset of collaborative governance with a stronger focus on creativity, problem-solving, and deep engagement with community actors, including service users, citizens, and social entrepreneurs (Torfing et al., 2021; Røiseland et al., 2024b; Sørensen et al., 2021).

Fourth, in multi-level, multi-actor, and multi-sector contexts, co-creation is presented as a mechanism for moving knowledge, information, and action across institutional and jurisdictional boundaries (Cash et al., 2006; Conteh & Harding, 2023; Homsy et al., 2019). Authors like Vellema and Van Wijk (2015, p. 106), in particular, develop the argument that “opportunities for co-creation between global and local actors emerge because of the involvement of and interactions between multi-stakeholder partnerships at global and local level,” thereby highlighting how local public–private partnerships and intermediary boundary-spanning organisations can play a significant role in balancing or challenging the influence of the Multinational Enterprise/Non-Governmental Organisation alliance at the global level. Boundary-spanning and bridging organisations connect stakeholders and agencies, citizen science data informs environmental regulation, and digital participation platforms transmit priorities between communities and municipal, regional, or national authorities (Medema et al., 2017; Njue et al., 2019; Lee-Geiller & Lee, 2019; Yu et al., 2019).

Likewise, in multi-level settings, co-creation is portrayed as the functional interface between governance scales. For instance, as Karpouzoglou et al. (2016) observe, the “flows of information pertaining to environmental decisions are no longer shaped by single entities” but “instead take place across multiple actors and networks (i.e. including a stronger representation of civil society)” (p. 44). Within this process, local co-creation arenas generate evidence and prototypes, which are translated upward through boundary objects⁸, while higher tiers adapt rules, budgets, and standards to support implementation (Newell et al., 2019; Karpouzoglou et al., 2016; Voytenko et al., 2016; Cash et al., 2006). Where these boundary mechanisms are weak or absent, the literature identifies common problems such as jurisdictional mismatches, responsibility shifting, and other cross-scale coordination issues (Homsy et al., 2019; Cash et al., 2006).

Fifth, co-creation is described as a continuous and adaptive loop, especially in contexts of crisis and uncertainty (Scognamiglio et al., 2023; Mikkelsen & Røiseland, 2024; Ansell et al., 2024). Practices such as joint monitoring, foresight exercises, scenario development, portfolio experimentation, and learning are deployed to enable anticipatory and adaptive governance (Clark et al., 2016b; Gudowsky & Peissl, 2016; Karpouzoglou et al., 2016; West et al., 2019). The primary benefit here lies in greater coherence and adaptability, as “adaptive governance arrangements” are “suited to deal with rapid change and complexity” and “to build system resilience over time” (Armitage et al., 2011, p. 1003). While the literature predominantly discusses how governance structures shape co-creation, such as through mandates, arena design, and standard-setting, this perspective emphasises how co-creation reshapes governance by creating new co-management boards, stewardship agreements, and revised data governance arrangements (Armitage et al., 2011; Ribeiro et al., 2019; Clark et al., 2016b; Sherriff et al., 2019). Namely, repeated co-creation processes, as seen in living labs or participatory budgeting, can result in the establishment of permanent co-governance structures (Ribeiro et al., 2019; Ackerman, 2004; Voytenko et al., 2016). In Living Labs, for instance, co-governance is the last phase of co-creation and it is about delivering decision-making models based on co-creation and making them transferable” (Ribeiro et al., 2019, p. 8).

4.1.4 Enabling and constraining governance logics for co-creation

Co-creation is most effective when it is embedded as a core function of the decision-making activity in governance, rather than treated as an auxiliary or experimental activity (Røiseland

⁸ Boundary objects are artifacts, concepts, or information used in different ways by members of multiple groups to facilitate communication and collaboration across differing social, disciplinary, or organisational boundaries. They are defined as “objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Star & Griesemer, 1989, p. 393).

et al., 2024a; Torfing et al., 2021). As Medema et al. (2017) stress, “the power of stakeholder networks is increasingly recognised” in contexts that have moved away “from more top-down and hierarchical mechanisms to more collaborative forms of governance” (p. 1). In NPG and network governance settings, in particular, political leaders are formally empowered and equipped to collaborate through shared objectives, joint performance indicators, pooled resources, and authorised mandates (Sørensen et al., 2021; Eriksson et al., 2017). For example, in partnering arrangements, “both formal (e.g., joint project objectives, open books, and mutual incentives) and informal aspects (e.g., trust and commitment)” function as shared platforms that facilitate co-creation practices (Eriksson et al., 2017, p. 25). These “authorising environments” legitimise experimentation and reduce the political and professional risks associated with innovation, creating robust governance conditions where “creative and agile public organisations adapt to the emergence of new disruptive problems by building networks and partnerships with the private sector and civil society” (Scognamiglio et al., 2023, p. 56).

Multi-level and polycentric governance frameworks complement this by providing legal and budgetary pathways for ideas generated locally to scale upwards, while enabling higher tiers to support rather than override local initiatives (Homsy et al., 2019; Alford, 2014; Cash et al., 2006). As Cash et al. (2006) observe, collaborative governance of resources enables cross-scale co-creation of knowledge and management solutions. In particular, bridging organisations that span departmental, jurisdictional, and sectoral boundaries plays a critical role in transferring knowledge, resources, and capacity (Armitage et al., 2012; Medema et al., 2017; Cvitanovic et al., 2015). For instance, Medema et al. (2017) emphasise that “sustainable water governance calls for inter-agency collaboration, ongoing learning and capacity building,” and also requires building partnerships that span public, private, and civil society stakeholders across multiple organisational levels (p. 1).

In adaptive and anticipatory governance approaches, the cost of failure is deliberately reduced by encouraging incremental adjustment rather than large-scale irreversible commitments (Scognamiglio et al., 2023; Cousins, 2021). Portfolio experimentation, iterative design, and continuous learning are embedded as standard practice, transforming co-creation from isolated workshops into ongoing cycles of sensing, testing, and refining solutions (Mikkelsen & Røiseland, 2024; Ansell et al., 2024). Such anticipatory approaches in co-creation matter because “using the tools of anticipatory governance—forward looking and participation—is essential in order to govern innovation actively and responsibly” (Gudowsky & Peissl, 2016, p. 2).

Meanwhile, open and digital governance extend reach and transparency, making participation and data visible and actionable across governance levels, provided that data

stewardship frameworks ensure data quality and responsible use (Lee-Geiller & Lee, 2019; Yu et al., 2019; Clark et al., 2016b). As Lee-Geiller and Lee (2019) point out, “citizens can engage in decision-making processes, which also enhances civic skills” (p. 220), while Yu et al. (2019) demonstrate how digital platforms facilitate “public value co-creation in a smart city” (p. 170).

By contrast, certain governance logics systematically constrain co-creation (Torfing et al., 2024; Røiseland et al., 2024a). TPA prioritises hierarchical control and procedural compliance, while NPM emphasises performance metrics/ efficiency, throughput, and cost control (Van Gestel et al., 2023; Steccolini, 2019). Both conceptualizations of public administration tend to marginalise or instrumentalise participatory co-creation processes (Wamsler et al., 2020; Greenhalgh et al., 2016). As Wamsler et al. (2020, p. 240) caution, “power structures and limited capacities undermine [the] promise” of co-creation for democratic governance. These logics are reinforced by legalistic traditions, professional cultures that resist power-sharing, and performance regimes that privilege delivery over learning (Voorberg et al., 2017a; Greenhalgh et al., 2016).

Highly centralised or authoritarian arrangements further limit co-creation by restricting delegation and permitting participation primarily as symbolic consultation (Wamsler et al., 2020; Casais & Monteiro, 2019). Platform governance without adequate safeguards risks recentralising control, excluding marginalised groups, and undermining trust through weak data stewardship (Lee-Geiller & Lee, 2019; Szarek-Iwaniuk & Senetra, 2020). Similarly, fragmented governance systems characterised by institutional silos and short political cycles struggle to embed co-creation beyond pilot stages (Homsy et al., 2019; Mikkelsen & Røiseland, 2024). In these contexts, “elections reset priorities,” integration fails short, and problems of scale and fit increase (Scognamiglio et al., 2023, p. 61).

In summary, co-creation thrives where governance systems institutionalise shared agency, iterative learning, and distributed power, but it falters where prevailing rules and incentives favour deterministic outcomes, centralised control, and efficiency at the expense of inclusion and adaptability (Sørensen et al., 2021; Torfing et al., 2021; Steccolini, 2019; Wamsler et al., 2020).

4.2 Who participates in co-creation and in what role?

4.2.1 Types of actors involved

According to recent scholarship (Ansell et al., 2024), co-creation may include a wide range of actors, such as “users, volunteers, citizen groups, civil-society organisations, private firms, public managers, elected politicians, etc.” (p. 152). For instance, in Urban Living Labs, principal actors are “citizens, businesses, public agencies, knowledge institutes, NGOs,

special interest groups, small and medium-sized enterprises, and municipalities” (Menny et al., 2018, p. 70). Our analysis of the actor types involved in co-creation highlights a strong dominance of **public sector actors, as shown in Table 6**, who appear in all but two papers, and **citizens**, who are present in 105 papers (95%). Interactions between public sector actors and citizens are explicitly addressed in 103 papers (93%), reflecting the prevailing conceptualisation of co-creation as a collaborative process between public actors and citizens centred on public service delivery⁹.

These interactions are frequently complemented by the involvement of researchers and, in some cases, interest groups. This pattern is corroborated by Chambers et al. (2021, p. 985), whose review of 32 global co-creation initiatives addressing sustainability issues found that “all cases fostered collaboration across at least three sectors, with research, government, non-governmental organisation (NGO), and community actors involved in most cases”.

The few papers that do not include public sector actors directly typically examine citizen participation in academic research (e.g., citizen science) or focus on market-oriented co-creation between companies and citizens. Conversely, papers that omit citizens tend to focus on government–academia partnerships in research or government–business collaborations in service delivery, or address citizen interests indirectly through intermediaries such as interest groups and NGOs.

Experts are mentioned in 99 papers (89%), with extensive references to university-based researchers or professionals (from both private and public sectors), and occasional mentions of think tank representatives. Experts appear together with public sector actors in 98 of these papers (88%), and with citizens in 93 papers (84%). However, unless the focus is explicitly on co-creation in research (e.g., citizen science), their presence tends to be limited and often cited only in passing when referring to “expert knowledge” as a contrast to “lay knowledge” of citizens. Nevertheless, it is remarkable that experts remain the most engaged actor group alongside the public sector–citizen nexus, appearing in 92 papers together (83%).

Interest groups are covered in 74 papers (67%), slightly more than **private firms**, which are included in 66 papers (59%). Both actor types typically appear as additional participants in the dominant public sector–citizens–experts nexus. In all cases where they are referenced, interest groups appear together with public sector actors. Similarly, private firms are mentioned alongside the public sector in all but one instance.

⁹ This finding is unsurprising, since we deliberately selected papers focusing on public governance, but it also confirms that our pre-selection based on the titles and abstracts of the papers corresponds to what we find in the reading of the full text.

Political parties are the least represented actor type, appearing in just 9 papers (8%). Where they are included, they are typically discussed in general terms alongside all other actor groups, indicating a marginal and non-specific role in co-creation processes. This observation suggests the decoupling of governance processes from the party-political arena and the limited relevance of the circuit of representative politics in the activities under study. It also points to a generally less politicised, more mechanistic use or at least analysis of co-creation.

Table 6. Frequency of actor types in the analysed dataset (n=111)

Actor Type	Number of Papers	Frequency
Public Sector	109	98.2%
Citizens	105	94.6%
Experts	99	89.2%
Interest Groups	74	66.7%
Private Firms	66	59.5%
Political Parties	9	8.1%
Not Specified	1	0.9%

Among the 74 papers that mention interest groups, it was possible to identify the specific type of group in only 40 cases. As shown in Table 7, the majority of these are **public interest groups**, appearing in 34 papers (81%), with a strong emphasis on environmental NGOs, reflecting the broader focus of the analysed literature on the environmental policy field. **Institutional associations** are the second most frequently identified type, appearing in 11 papers (26%), primarily involving associations of public organizations. **Business groups** are identified in 9 papers (21%), while other types of interest groups occur far less frequently.

Table 7. Frequency of interest group types in the analysed dataset (n=40)

Interest Group Type	Number of Papers	Frequency (Interest Groups)
Public Interest	34	81.0%
Institutional Associations	11	26.2%
Business Groups	9	21.4%

Interest Group Type	Number of Papers	Frequency (Interest Groups)
Identity Groups	4	9.5%
Occupational Associations	3	7.1%
Unions	1	2.4%

4.2.2 Actor roles and functions

The prevailing pattern of co-creation emerging from the literature is one of citizen-focused co-design and co-delivery of services supported by public sector convening and orchestration (Acar et al., 2025; Ege et al., 2025; Mikkelsen & Røiseland, 2024). In this model, public bodies, particularly municipal authorities and agencies, create the institutional and procedural frameworks that enable citizen participation (Van Gestel et al., 2023; Hofstad et al., 2023; Ferraris et al., 2020). Private sector actors contribute by scaling innovations and ensuring operational reliability (Ferraris et al., 2020; Conteh & Harding, 2023; Eriksson et al., 2017). Throughout these processes, NGOs and researchers serve as knowledge brokers and facilitators. According to the literature, they ensure that co-creation remains inclusive, transparent, and oriented towards mutual learning (Cvitanovic et al., 2015; Chambers et al., 2021; West et al., 2019).

In short, in the ideal scenario public actors set the stage and rules, citizens shape and often help deliver, NGOs keep the process accountable and connected, firms provide the tools and scale, and experts supply and translate knowledge.

Public sector

Public sector actors, typically encompassing national ministries, public agencies, and municipal or city-level administrations, are unsurprisingly noted to play a central and often initiating role in co-creation initiatives (Van Gestel et al., 2023; Ege et al., 2025; Voytenko et al., 2016). Across diverse governance contexts, the public sector is consistently positioned as a convenor, orchestrator, and facilitator of co-creation processes (Ferraris et al., 2020; Hofstad et al., 2023; Mikkelsen & Røiseland, 2024). In the words of Trischler and Charles (2019, p. 22), “the role of government is therefore as a coordinator of value co-creation, which (when possible) supports emergent solutions”. Similarly, Torfing et al. (2021, p. 18) argue that “co-creation processes cannot emerge spontaneously; government must play an orchestration role and construct meeting places where relevant actors can come together”.

Therefore, public actors are typically responsible for setting the co-creation arena, i.e., establishing the procedural and institutional conditions under which co-creation occurs

(Torfing et al., 2024; Røiseland et al., 2024a; Regal et al., 2024). This includes mandating the process, convening stakeholders, chairing working groups, and ensuring continuity of collaborative activities (de Jong et al., 2019; Gudowsky & Peissl, 2016; Hambleton, 2019). Particularly in smart city and sustainability transition initiatives, public bodies frequently assume the role of “meta-governors,” brokering interactions between civil society organisations, private firms, and knowledge institutions, mediating conflicts, and aligning efforts across departments (Frantzeskaki, 2019; Kiritmat et al., 2020; Yu et al., 2019; Szarek-Iwaniuk & Senetra, 2020; Hofstad et al., 2023).

Two additional roles frequently attributed to public sector actors are that of resource enabler and rule-setter (Ferraris et al., 2020; Kiritmat et al., 2020). They relate to the classic functions of governments, which is to (re-)distribute and regulate. Here, public institutions provide critical support infrastructure by financing pilot programmes and innovation portfolios, supplying datasets and digital platforms, and issuing necessary permits (Voytenko et al., 2016; Mikkelsen & Røiseland, 2024; Kiritmat et al., 2020). Moreover, they define the legal and procedural frameworks that govern participation, often by setting standards, creating incentive mechanisms, and delineating and enforcing sanctions, thus enabling and legitimising co-creation (Ackerman, 2004; Linders, 2012; Ma et al., 2019).

The public sector may also take on the role of co-designer, particularly in more advanced or experimental co-creation arrangements (Donetto et al., 2015; Leino & Puumala, 2021; Ege et al., 2025). This shift typically occurs when public institutions move beyond traditional bureaucratic delivery models and embrace more participatory forms of governance (Torfing et al., 2019; Røiseland et al., 2024b; Osborne & Strokosch, 2013). In such contexts, public officials initiate co-creation programmes, collaborate directly with users in the co-design of services, and create institutional space for citizen knowledge to shape policy solutions (de Jong et al., 2019; Donetto et al., 2015; Hofstad et al., 2023). For instance, evidence from Switzerland demonstrates how local administrations and citizens “are actively involved in planning, designing, and delivering local services” (Ege et al., 2025, p. 1), signalling a shift from pure provision towards collaborative design. The extent to which public actors are willing to integrate experiential knowledge, redistribute decision-making authority, and act on insights generated through co-creation processes ultimately determines the depth and impact of collaborative governance (Turnhout et al., 2020; Ackerman, 2004; West et al., 2019).

Citizens

Citizens, understood here as individual community members rather than in the narrow legal sense, are the most frequently referenced stakeholder group in co-creation processes. They are broadly conceptualised to include local residents, service users, clients/consumers,

and community members, with their identities often shaped by sectoral contexts, e.g., as patients in health care, farmers in agricultural development, or tourists in the tourism sector (Donetto et al., 2015; Barrios et al., 2020; John & Supramaniam, 2024). Importantly, citizens are typically framed as participating directly in co-creation rather than solely through intermediary organisations or representatives, underscoring the emphasis on lived experience and personal engagement. Their involvement spans a wide spectrum of roles, reflecting the growing emphasis on participatory governance and user-driven innovation in public service delivery (Nabatchi et al., 2017; Linders, 2012).

The most prominent role of citizens is that of co-designers and co-implementers, particularly within local and urban development initiatives (Leino & Puumala, 2021; de Jong et al., 2019; Puerari et al., 2018), which is consistent with the findings of Voorberg et al. (2015). Citizens actively contribute to the design and refinement of public services and policies by identifying needs, setting priorities, co-deciding on service configurations, and engaging in prototype testing and implementation (de Jong et al., 2019; Voytenko et al., 2016; Nevens et al., 2013). In many contexts, such as living labs, citizen assemblies, thematic councils, and digitally mediated platforms, citizens move beyond consultative roles to participate in shared decision-making, helping to shape both strategic directions and implementation approaches (Voytenko et al., 2016; Gudowsky & Peissl, 2016; Bonsón et al., 2015).

A closely related role is that of knowledge contributor and data producer. Citizens provide a range of situated, experiential, and technical knowledge, including through citizen science, community storytelling, traditional ecological knowledge, and lived experience (Njue et al., 2019; Kythreotis et al., 2019; Chambers et al., 2021). These contributions are frequently used to reframe policy problems, contextualise interventions, and improve the legitimacy and responsiveness of public services (West et al., 2019; Cvitanovic et al., 2019; Zafra-Calvo et al., 2020). The literature underscores this role in the domain of environmental monitoring, where “governments, academics, non-governmental and community organisations” increasingly “emphasise the importance of citizen science” (Njue et al., 2019, p. 2). For instance, in certain contexts, “citizen scientists often monitor environmental issues and collaborate with institutions, such as universities, to advocate for change” (Homsy et al., 2019, p. 574).

More rarely, citizens serve as co-initiators, particularly in agenda-setting and visioning activities (Merickova et al., 2015; Acar et al., 2025; Van Gestel et al., 2023). However, they more commonly contribute as co-implementers, e.g., by co-managing public spaces, co-constructing community infrastructure, or participating in shared mobility systems (Merickova et al., 2015; Dushkova & Haase, 2020; Nabatchi et al., 2017). In some instances,

citizens also participate in regulation as co-regulators, influencing behavioural norms, rating systems, and informal enforcement mechanisms, especially in digital platform and peer-to-peer service contexts (Ma et al., 2019; Vargas et al., 2022; Kirimtut et al., 2020). For instance, Ma et al. (2019) write how “consumers not only contribute to the firms’ sustainable value creation process but also play a part of the government’s role in regulating public spaces” (p. 1155). In cases where co-design is directly linked to co-implementation, citizen engagement tends to translate into stronger senses of ownership and accountability, reinforcing the sustainability and effectiveness of co-created solutions, as reported in the literature (Donetto et al., 2015; Leino & Puumala, 2021; Frantzeskaki, 2019).

Elected officials

Political actors, primarily referring to elected officials such as mayors and local councillors, are among the least frequently discussed stakeholders in co-creation processes (Regal et al., 2024; Van Gestel et al., 2023). Despite their limited visibility in the literature, their influence is often central in enabling or constraining co-creation dynamics (Regal et al., 2024; Ansell et al., 2024).

Individual politicians holding executive functions primarily play an authorising and agenda-setting role, initiating co-creation by endorsing participatory processes, setting strategic priorities, and enacting regulatory or institutional reforms that create the necessary legal and procedural space for experimentation (e.g., enabling living labs or alternative valuation frameworks) (Van Gestel et al., 2023; Ansell et al., 2024; Ferraris et al., 2020). In this capacity, they can unlock institutional barriers and act as political enablers of innovation in governance (Regal et al., 2024; Hambleton, 2019). In other words, working together with different stakeholders, political actors open institutional space for collaboration, which is consistent with the idea of Trischler and Charles (2019, p. 22) that “institutional change is put forward by politicians, lobbying groups, the media, and the citizenry”.

Additionally, political leaders sometimes act as public champions, using their platforms to convene stakeholders across political, sectoral, and community boundaries (Hambleton, 2019; Regal et al., 2024). Their involvement can confer legitimacy on participatory efforts and influence the scope and timing of engagement, implicitly signaling which issues are open for co-creation, who is invited to participate, and when such participation is deemed appropriate (Ferraris et al., 2020; Regal et al., 2024). Importantly, the extent to which political actors are willing to share decision-making authority directly shapes the depth of citizen involvement (Ackerman, 2004; Turnhout et al., 2020).

Interest groups and NGOs

Interest groups and NGOs, including unions and institutional associations, play an indirect but multifaceted role in co-creation processes. They are most commonly positioned as

advocates and watchdogs that safeguard equity, sustainability, and the interests of specific constituencies (Cousins, 2021; Zafra-Calvo et al., 2020). By maintaining pressure on public institutions and political actors, these groups help sustain co-creation agendas across electoral cycles and administrative turnover, ensuring that long-term goals¹⁰ remain on the policy agenda (Homsy et al., 2019; Frantzeskaki, 2019).

In addition to advocacy, interest groups and NGOs frequently serve as boundary-spanners, initiators, and knowledge brokers, bridging the divide between communities, policymakers, and technical experts (Cvitanovic et al., 2015; Chambers et al., 2021; Casais & Monteiro, 2019). They play an important role in translating local and experiential knowledge into policy-relevant formats, convening multi-stakeholder dialogues, facilitating deliberative processes, and mobilising community participation (West et al., 2019; Chambers et al., 2021). For instance, the cases from environmental governance emphasise that “communication and collaboration between multiple stakeholders (government, NGOs, academia, etc.) were key enablers” of co-creation (Zafra-Calvo et al., 2020, p. 8).

These actors also often manage outreach and engagement strategies, connecting hard-to-reach populations with co-creation initiatives and ensuring inclusive representation (Leino & Puumala, 2021; Bradley & Mahmoud, 2024; Scognamiglio et al., 2023). In certain contexts, NGOs also act as resource contributors, providing domain-specific expertise, managing small grants, or contributing in-kind resources, such as space, equipment, or staff, to support pilot projects and sustain prototype development (Prandini & Ganugi, 2024; Van Gestel et al., 2023; Frantzeskaki, 2019). According to some studies, their ability to link grassroots engagement with institutional processes positions them among the key enablers of collaborative governance, particularly in complex and cross-sectoral policy domains (Chambers et al., 2021; Cvitanovic et al., 2015; West et al., 2019).

Private firms

Private sector actors are primarily engaged in co-creation processes as technology and innovation providers as well as implementers and service deliverers (Ferraris et al., 2020; Kirimtati et al., 2020; Voytenko et al., 2016). Firms contribute critical infrastructure, platforms, and technical solutions, ranging from digital tools and data platforms to construction, energy, and Internet of Things applications (Kirimtati et al., 2020; Voytenko et al., 2016). Their role is particularly prominent in the operationalisation and scaling of co-created services, often acting as key partners in smart city and sustainability transition initiatives (Clark et al., 2016b; Conteh & Harding, 2023; Frantzeskaki, 2019; Kirimtati et al., 2020; Yu et al., 2019; Hofstad et al., 2023). For instance, in their global study of 32 co-

¹⁰ At the same time, they may also advance narrower or politically driven interests, a dimension that remains insufficiently addressed in the analysed literature.

creation initiatives to address sustainability challenges, Chambers et al. (2021) report that “societal actors ranged from business CEOs and urban planners to indigenous leaders and artists” (p. 985).

Private firms also function as co-investors and risk-sharing partners, providing financial capital, sponsoring initiatives, co-funding public programmes, and participating in innovative procurement and pilot arrangements (Eriksson et al., 2017; Conteh & Harding, 2023; Regal et al., 2024). As Chambers et al. (2021, p. 985) observe, in some cases, “private firms (CEOs of global companies, supply-chain actors) commit resources, change corporate practice, and join stewardship dialogues”. In platform-based service models, firms exert influence over governance outcomes through the embedded design choices they make (Ma et al., 2019; Vargas et al., 2022).

Less frequently, private firms (particularly through business associations) act as convenors, bringing together actors across supply chains or sectors to address common challenges (Vellema & Van Wijk, 2015; Conteh & Harding, 2023; Shrestha, 2024). In such cases, firms contribute not only capital and expertise but also coordination capacity within complex multi-actor ecosystems (Vellema & Van Wijk, 2015; Conteh & Harding, 2023).

Experts

Experts typically encompass academic researchers, scientists, consultants, and other professional knowledge actors. They seldom feature as independent actors but are more commonly embedded within broader organisations such as universities, research institutes, think tanks, or consultancies. Experts play an important role in co-creation as evidence producers, knowledge translators, and methodological facilitators (Clark et al., 2016b; Cvitanovic et al., 2015; Chambers et al., 2021). Their primary function is to generate robust, actionable knowledge in the form of studies, indicators, models, and evaluations, and to adapt conceptual and methodological tools to function effectively across disciplinary, cultural, and institutional boundaries (Clark et al., 2016b; Hegger et al., 2012). Frequently, experts serve as boundary-spanners, mediating between scientific, policy, and local or indigenous knowledge systems to ensure that diverse epistemologies are integrated into co-creation processes (Clark et al., 2016a; Tengö et al., 2014; Tengö et al., 2017). They increasingly adopt the role of learning catalysts, shifting away from being authoritative solution-providers to enabling citizens and other stakeholders to co-define problems, explore options, and determine appropriate solutions through collective learning (West et al., 2019; Chambers et al., 2021).

A subcategory of experts is central to the design and facilitation of co-creation processes. They contribute to the structure of participation by designing workshops, labs, and deliberative frameworks, moderating complex or contentious dialogues, and guiding

stakeholders through systems thinking, trade-off analysis, and future scenario development (Nevens et al., 2013; Jean et al., 2018; Smith et al., 2024). This facilitative role is often explicit, such as in sustainability interventions where “the role of the researcher was not to propose solutions but to facilitate the citizens’ and clients’ capacity for democratic deliberation and collective learning” (West et al., 2019, p. 539). In many initiatives, experts work alongside citizens and public officials in co-design teams, where they provide methodological rigour, support process integrity, and ensure the quality and inclusiveness of outcomes (Donetto et al., 2015; Lang et al., 2024). They are also expected to help guard against tokenistic participation, drawing attention to power imbalances and institutional blind spots (Turnhout et al., 2020; Wamsler et al., 2020).

5. Common benefits and risks of co-creation

This chapter provides an evidence-based account of both the benefits and risks of co-creation, as reported across the academic literature. It establishes a policy-relevant baseline by consolidating what co-creation is generally expected to deliver (such as stronger democratic legitimacy, more robust knowledge generation, and solutions that are better tailored to policy needs) while also identifying recurrent pitfalls that emerge when co-creation processes are poorly designed, under-resourced, or instrumentalised. Taken together, these insights are intended to inform the design of co-creation processes that maximise public value while remaining realistic about operational constraints.

5.1 Claimed benefits of co-creation

Recent scholarship recognises that “public managers, elected politicians, public employees, businesses, civil-society actors and citizens, each see advantages in engaging in co-creation” (Røiseland et al., 2024b, pp. 5–6), suggesting the broad-based appeal of collaborative approaches across sectors and stakeholder groups. Similarly, the literature highlights a wide range of potential benefits attributed to co-creation. These benefits can be grouped into seven overarching domains, each reflecting a distinct dimension of public value generated through co-creation processes. Together, they demonstrate how co-creation contributes not only to improved governance and service outcomes but also to deeper institutional and societal transformation (Sørensen et al., 2021; Ege et al., 2025).

1. *Legitimacy and democracy*

According to the literature, contemporary governance “calls for the broad involvement of relevant and affected actors which enhances the legitimacy of decisions made as well as the efficacy of these decisions” (Sørensen et al., 2021, p. 14). In this regard, Ansell et al. (2024) emphasise, “co-creation as democracy has its primary strength in the production of input and output legitimacy” (p. 159).

Namely, co-creation is widely seen as a means of making decision-making more transparent, inclusive, and responsive (Karpouzoglou et al., 2016; Szarek-Iwaniuk & Senetra, 2020; Chambers et al., 2021). By granting citizens roles as co-designers and, at times, co-decision-makers, co-creation redistributes decision rights and makes governance processes more transparent (Osborne & Stokosch, 2013; Bonsón et al., 2015; Szarek-Iwaniuk & Senetra, 2020). Participatory budgeting, for example, reinforces democratic legitimacy through public rules, transparent allocations, and citizen monitoring (Ackerman, 2004; Bovaird, 2007; Barbera et al., 2016; Ribeiro et al., 2019). Designs based on consent rules lock legitimacy into the process itself (Wang & Ran, 2025). Over time, such practices

offer meaningful spaces for citizen voice and influence, moving beyond symbolic consultation to authentic and democratic engagement (Boussaguet, 2016; Njue et al., 2019; Røiseland et al., 2024a; Leino & Puumala, 2021).

Moreover, the visible uptake of public input into final decisions builds trust and reduces compliance costs (Ribeiro et al., 2019; Homsy et al., 2019; Torfing et al., 2021). For instance, Røiseland et al. (2024a) highlight how “seeing that elected politicians and public managers are committed to listening to and discussing with ordinary citizens will help to restore trust in government” (p. 17), and, according to De Jong et al. (2019), bring “more public support for governmental policies” (p. 491). Therefore, through inclusive deliberation, shared decision rights, and visible uptake of citizen contributions, co-creation enhances both fairness (input legitimacy) and competence (output legitimacy) in decision-making, resulting in citizens developing “increased trust in their institutions” (Ribeiro et al., 2019, p. 8; Torfing et al., 2019, 2021; Ansell et al., 2024; Ege et al., 2025; Røiseland et al., 2024a).

2. Effectiveness and innovation

Collaborative initiatives, such as co-creation, are expected to generate “more effective outcomes that enjoy a higher acceptance among different stakeholders” (Menny et al., 2018, p. 69). Namely, there is “a general conviction” in the literature that “citizen participation leads to better policy decisions” (de Jong et al., 2019, p. 491). “All the co-creation models” are noted to “make strong claims” that “outputs are more likely to be fit for purpose, acceptable, valuable, and enduring” (Greenhalgh et al., 2016, p. 406).

Co-creation enhances effectiveness by enabling diverse actors to jointly frame problems, align on values, and agree on success criteria, thereby reducing blind spots and increasing contextual fit (Graversgaard et al., 2017; Cvitanovic et al., 2019). Meanwhile, the integration of experimentation (via living labs, pilots, or policy sandboxes) accelerates learning-by-doing and supports the rapid iteration and testing of solutions before scale-up (Nevens et al., 2013; Voytenko et al., 2016; Menny et al., 2018; Puerari et al., 2018). At the same time, shared risk and responsibility among stakeholders ensure that partners remain engaged long enough to identify what actually works (Hofstad et al., 2023; Torfing et al., 2021). As Hofstad et al. (2023) observe, “collaborative co-creation mobilizes societal resources, spur[s] creative problem solving, share[s] the risks of innovating, and build[s] joint ownership of new, bold solutions” (p. 358), while Eriksson et al. (2017) emphasise that “co-creation practices enhance” both “radical development and incremental development” of new solutions (p. 22).

Interestingly, evidence from non-democratic regimes such as China, for instance, shows that collaborative models reduce disputes, save time and money, and improve delivery (Yu

et al., 2019; Ma et al., 2019; Lang et al., 2024). Similarly, councils grounded in local knowledge are noted to outperform top-down plans by proposing more feasible and lower-cost interventions (Armitage et al., 2011; Medema et al., 2017; Jean et al., 2018; Njue et al., 2019). For instance, studies from the water management domain (Graversgaard et al., 2017) report that “the measures proposed by the water councils will generally deliver better results” (p. 1). Co-creation thus delivers both higher performance and more resilient solutions and innovation pathways (Greenhalgh et al., 2016; Torfing et al., 2021).

3. Efficiency and performance management

Various studies note that co-creation initiatives “can lead to more efficient and responsive public services” (Pauluzzo et al., 2024, p. 628). Co-creation contributes to efficiency gains by leveraging distributed resources (volunteer time, in-kind contributions, and co-funding) to enhance institutional capacity (Haustein & Lorson, 2023; Torfing et al., 2024; Merickova et al., 2015; Bovaird, 2007; Alford, 2014). Digital enablers further support these gains. ICTs are described as “powerful tools for enhancing transparency at a very low cost” (Bonsón et al., 2015, p. 53), supporting both accountability and operational improvements. For instance, digital tools for co-production (e.g., online reporting platforms, participatory GIS mapping) reduce transaction costs and improve early-stage service alignment (Njue et al., 2019; Dushkova & Haase, 2020; Pauluzzo et al., 2024; Bonsón et al., 2015).

Meanwhile, approaches like Experience-Based Co-Design demonstrate that capturing user insights earlier and more directly leads to better outcomes at lower cost compared to traditional service design cycles (Donetto et al., 2015; Greenhalgh et al., 2016). In the healthcare sector, for instance, a study of “48 co-design activities” found that they “were achieved more quickly and at lower cost” (Donetto et al., 2015, p. 231). Therefore, by combining early validation with collaborative delivery, co-creation enables faster and more cost-effective services without compromising quality (Eriksson et al., 2017; Pauluzzo et al., 2024). For example, partnering arrangements in public project delivery have demonstrated “the positive effects of improved collaboration on cost savings, reduction in disputes, shorter construction time, and improved predictability” (Eriksson et al., 2017, p. 23), while in the water management domain, water councils have helped “identify efficient solutions at lower costs” (Graversgaard et al., 2017, p. 1).

4. Knowledge, learning, and capacity-building

Co-creation improves the relevance, credibility, and legitimacy of knowledge used in policy and service design and enhances problem-solving capacity by facilitating “collaboration and learning between diverse stakeholders” (Karpouzoglou et al., 2016, p. 47; Hegger et al., 2012; Cvitanovic et al., 2019; Clark et al., 2016b; Tengö et al., 2017). In general, participatory

approaches have been found to “increase the extent to which the outcomes of scientific research are perceived by decision-makers as salient, credible, and legitimate” (Cvitanovic et al., 2019, p. 23). For instance, Hegger et al. (2012) observe that “successful joint knowledge production is a process in which the actors involved have managed to maximise synergy and minimise trade-offs between the salience and credibility of the knowledge produced as well as the legitimacy of the process” (p. 55).

When problems are co-defined and evidence is co-produced, the resulting insights carry broader support and greater applicability (Chambers et al., 2021). Co-created knowledge is thus more actionable and trusted, emerging from mutual learning, the use of boundary objects, and integration of multiple knowledge systems (Hegger et al., 2012; Cvitanovic et al., 2019; Tengö et al., 2017; Clark et al., 2016b). Tools such as boundary objects (including stakeholder maps, models, and serious games) help actors with different perspectives reason together, while creating “additional sources of capability for the organisation through citizen effort” (Alford, 2014, p. 301; Medema et al., 2017; Jean et al., 2018; Greenhalgh et al., 2016). For instance, in the domain of environmental assessments, such processes are noted to create “an enriched picture” with the potential to “widen the scope, depth, and value of the assessment” and enhance the legitimacy and relevance of the assessment outcomes (Tengö et al., 2014, p. 580).

At the same time, open digital infrastructures like Environmental Virtual Observatories enhance transparency, reusability, and collective ownership of data (Karpouzoglou et al., 2016; Xie et al., 2016) while approaches such as plural valuation and community-based participatory research expand the definition of what counts as valid evidence, integrating experiential, ecological, and cultural values (Zafra-Calvo et al., 2020; Lang et al., 2024; Chambers et al., 2021; Tengö et al., 2017). The outcome is shared knowledge that is actionable, socially accepted, and more likely to be adopted in practice (Stephenson et al., 2019; West et al., 2019; Clark et al., 2016b).

5. *Equity, inclusion, and social cohesion*

Co-creation has the potential to “strengthen democracy and social justice” (Menny et al., 2018, p. 69) by making policymaking, service delivery, and governance more equitable, representative, empowering, inclusive, and responsive (Leino & Puumala, 2021; Zafra-Calvo et al., 2020; Ziervogel, 2019). As Prandini and Ganugi (2024) note, “co-creation is widely conceived as a tool to achieve innovative service and create wellbeing for all, leaving no one behind” (p. 111), while Chambers et al. (2021) highlight the importance of “developing solutions through legitimate processes that draw on diverse and credible expertise” (p. 983).

Redistributive and participatory design elevates users “from being merely informants to being legitimate and acknowledged participants in the design process” (Donetto et al., 2015, p. 233), while tools such as participatory budgeting formulas that prioritise underserved areas ensure fairer allocation of resources (Ackerman, 2004; Bovaird, 2007; Barbera et al., 2016; Cousins, 2021; Tengö et al., 2017). Evidence from environmental and sustainability governance indicates that, when engagement processes and knowledge platforms are effectively designed, they “have the potential to make science and data more transparent and accessible in a way that informs and empowers citizens” (Karpouzoglou et al., 2016, p. 47) and facilitate “transformative change by improving decision-making processes through mainstreaming diverse voices” (Zafra-Calvo et al., 2020, p. 11). Such inclusive formats serve to rebuild trust “by making the marginalised feel heard” and “start addressing past injustices” (Ziervogel et al., 2022, p. 618).

In that way, approaches like Citizen Social Science and plural valuation help empower perspectives that are typically excluded from technical planning procedures (Linders, 2012; Njue et al., 2019; Zafra-Calvo et al., 2020; Kythreotis et al., 2019). Similarly, Urban Living Labs and community partnerships in low-income areas provide platforms where underrepresented voices not only participate but also co-decide (Neuens et al., 2013; Voytenko et al., 2016; Leminen et al., 2020; Turnhout et al., 2020; Puerari et al., 2018).

This enhances both procedural fairness and equitable outcomes, while also strengthening social cohesion and building the social capital needed for collective resilience and acceptance/compliance (Torfing et al., 2019; Leino & Puumala, 2021; Bradley & Mahmoud, 2024). Namely, co-creation “may strengthen social cohesion and build more resilient communities” (Torfing et al., 2019, p. 809), particularly “if it is used inclusively to empower citizens and to enhance mutual trust” (Leino & Puumala, 2021, p. 795). As Jean et al. (2018) explain, when stakeholders “share expertise and knowledge,” then “transparency, openness, as well as the level of collaboration increase” (p. 1020), ultimately reinforcing the capacity of communities to work together toward shared goals.

6. Sustainability and resilience

The literature highlights that co-creation initiatives lead to “prioritising sustainability and more effective policy implementation” (Homsy et al., 2019, p. 574). In this regard, co-creation supports sustainability by promoting long-term stewardship over local resources, building institutional and community readiness to respond to shocks, and supporting more durable and climate-resilient policies and practices (Hegger et al., 2012; Frantzeskaki et al., 2025; Torfing et al., 2024; Barrios et al., 2020; Wamsler et al., 2020; Homsy et al., 2019; Cvitanovic et al., 2019). As Torfing et al. (2024) emphasise, “co-creation is a powerful tool for enhancing environmental sustainability” since it “fosters a sense of joint ownership of the

green solutions, which reduces the implementation resistance” (p. 2). For instance, solutions generated through citizen science initiatives are noted to expand monitoring capacity and reduce costs, while deepening local ownership (Njue et al., 2019).

When communities participate in co-managing environmental interventions, such as monitoring and maintaining green infrastructure, they are more likely to accept, support, and sustain those solutions over time (Ribeiro et al., 2019; Vellema & Van Wijk, 2015). Co-created nature-based solutions, for example, tend to have higher uptake and longevity than externally imposed projects (Frantzeskaki, 2019; Wamsler et al., 2020; Dushkova & Haase, 2020; Cousins, 2021). Dushkova and Haase (2020) similarly highlight that co-created nature-based solutions “provide multiple environmental, social, and economic co-benefits” including “improvement of health and quality of life” (p. 1).

7. Market and economic spillovers

Co-creation generates a range of economic and market-related benefits. In particular, by “removing the barriers to open innovation in public governments” and stimulating “the users’ engagement and involvement” (Ferraris et al., 2020, p. 1273), unmet needs are more easily identified, and products and services are refined more rapidly (Ackerman, 2004; Hilgers & Ihl, 2010; Linders, 2012). Meanwhile, tools like living labs and innovation clusters stabilise emerging technologies and practices, enhancing their competitiveness, while further catalysing “rapid technical and economic transformation” (Voytenko et al., 2016, p. 69; Nevens et al., 2013; John & Supramaniam, 2024; Karnøe & Garud, 2012).

In some contexts, co-creation drives growth, innovation, and greener economies by enabling open innovation, market co-design, and stronger local clusters (Ferraris et al., 2020; Karnøe & Garud, 2012; Ma et al., 2019). Literature argues that localised green transitions that are co-created with community actors can also generate jobs and entrepreneurship opportunities, e.g., in the maintenance of nature-based solutions or circular economy services (Frantzeskaki, 2019; Fratini et al., 2019; Wamsler et al., 2020; Dushkova & Haase, 2020; Pekdemir et al., 2025). More broadly, tightened feedback loops between firms, citizens, and public institutions reduce the risk of misinvestment and contribute to more adaptive and inclusive economic processes (Clark et al., 2016b; West et al., 2019; Ferraris et al., 2020).

5.2 Critiques and limitations

5.2.1 Identifying principal co-creation risks in the public governance literature

While co-creation holds significant promise, the literature also highlights a wide range of risks and limitations that can arise when it is poorly designed, under-supported, or politically instrumentalised. In general terms, these limitations refer to structural, institutional, and

procedural weaknesses that constrain the inclusiveness, credibility, or effectiveness of co-creation. They manifest across different stages of the co-creation process and can undermine both its democratic legitimacy and practical effectiveness (Røiseland et al., 2024a; Torfing et al., 2021; Acar et al., 2025). In the following, we grouped these wide-ranging risks and limitations into six overarching categories, each capturing distinct patterns observed in both practice and the literature.

1. Issues of power, representation, and legitimacy

The most frequently cited risks relate to the political and organisational foundations of co-creation. These include tokenism, elite capture, biased participation, power asymmetries, and representation gaps. Together, they can produce unfair outcomes, erode trust, undermine compliance, and deepen social divisions (Ansell et al., 2024; Torfing et al., 2019; Osborne & Strokosch, 2013; Sørensen et al., 2021; Ackerman, 2004; Acar et al., 2025).

The first dominant risk emerging from the literature is hollow participation: co-creation processes are opened, workshops convened, and platforms launched, yet decision rights remain firmly in the hands of public authorities. Co-creation may thus evolve into a performative ritual where citizen engagement is more about appearances than substance. Inputs are solicited, but they may never enter the decision-making stream, or if they do, their influence is invisible (Torfing et al., 2019; Voorberg et al., 2015; Osborne & Strokosch, 2013; Leino & Puumala, 2021). Frantzeskaki et al. (2025), for instance, warn that “co-creation can be instrumentally used as tokenism, to marginalise certain groups, or to legitimise retreating welfare state and social policy” (p. 7). This often occurs in highly centralised or risk-averse bureaucratic environments, where real decision-making authority is not shared and participation serves only as window dressing for decisions already made, or as a way to legitimise unpopular reforms (Torfing et al., 2019; Osborne & Strokosch, 2013; Voorberg et al., 2015; Leino & Puumala, 2021; Frantzeskaki et al., 2025). Over time, this breeds dissatisfaction, disillusionment, and disengagement: citizens feel merely “consulted at” rather than genuinely heard, while officials treat participation as a box-ticking exercise (Leino & Puumala, 2021; Voorberg et al., 2015).

Hollow participation often implies a second pattern: skewed participation. Co-creation processes, while ostensibly inclusive, can reinforce existing inequalities if they are dominated by those with disproportionate access to time, resources, and social capital. In other words, those who have the time, networks, and familiarity with institutional language are more likely to actively participate, while those with fewer resources, weaker connections, or lower digital literacy are less likely to do so (de Jong et al., 2019; Szarek-Iwaniuk & Senetra, 2020; Linders, 2012). The literature notes that “participating citizens will most likely not be representative for society,” highlighting “a general ‘public apathy’ and

prevalence of “a select group of ‘natural joiners’” (de Jong et al., 2019, p. 491). This “may result in biased participation favouring the most extreme and/or advantaged segments of the population” (Torfing et al., 2019, pp. 808–809), as well as “creating echo chambers, reinforcing the status quo, and being co-opted by powerful vested interests” (Chambers et al., 2021, p. 990).

Likewise, in many co-creation efforts, vulnerable or marginalised groups (e.g., low-income residents, older adults, and those with limited digital literacy) are often left out, resulting in skewed participation and legitimacy deficits. In particular, in contexts relying on digital tools for collecting citizen input, “digitally excluded individuals,” as well as seniors, “could be prevented from participating in the survey” (Szarek-Iwaniuk & Senetra, 2020, pp. 15–16). This problem is exacerbated by overreliance on online platforms, inaccessible formats, or limited outreach that fails to engage communities with low trust in institutions (Szarek-Iwaniuk & Senetra, 2020; Linders, 2012; Menny et al., 2018; de Jong et al., 2019). For instance, in urban living labs, Menny et al. (2018) observe “a common difficulty” to “involve a representative citizen group” (p. 72).

Furthermore, entrenched power differentials and expert-centric formats can neutralise even well-designed processes. In this regard, Zafra-Calvo et al. (2020) argue that “highly skewed power relations may hamper even the most comprehensive [co-creation] efforts” (p. 11). For this reason, some scholars warn that “participation for participation’s sake is never enough” and that “co-creation in itself does not ensure [equitable outcomes or meaningful change]” (Leino & Puumala, 2021, p. 794). In particular, “it cannot eradicate power differentials in day-to-day operations” (Sherriff et al., 2019, p. 387). Without intentional outreach, support mechanisms, and counterweights, participation becomes skewed towards organised interests or vocal minorities, such as activist elites, clientelist networks, or self-interested stakeholders, limiting the diversity and legitimacy of input (Ansell et al., 2024; Sørensen et al., 2021; Ackerman, 2004; Zafra-Calvo et al., 2020; de Jong et al., 2019; Turnhout et al., 2020). This is confirmed by Ackerman (2004), who argues that such “participation schemes can easily end up only strengthening previously existing clientelistic networks and unbalanced intra-community power relations” (p. 451). In addition, citizens may be somewhat sceptical of co-creation, as a recent paper on mini-publics suggests. It argues that citizens prefer additional deliberative exercises as a complement rather than a replacement for institutions of deliberative democracy (Goldberg et al., 2025).

2. Issues of process design and delivery

A second group of risks lies in the mechanics of co-creation, specifically in how it is designed, coordinated, and governed. These include consensus drag, conflict

mismanagement, high transaction costs, and accountability dilution (Torfing et al., 2019; Wang & Ran, 2025; Bovaird, 2007).

In practice, co-creation is a time- and resource-intensive process, and without clear scope or coordination structures, it can drain capacity and yield limited returns. Vague mandates and dispersed responsibilities lead to long delays, dissatisfaction, inefficiency, and process fatigue among stakeholders (Torfing et al., 2024; Wang & Ran, 2025; Haustein & Lorson, 2023; Stephenson et al., 2019; Donetto et al., 2015). In the words of Stephenson et al. (2019), “fully collaborative or empowering processes are inevitably time-consuming and resource-intensive,” which is why Wang and Ran (2025) conclude that “not all collaborative endeavours culminate in value co-creation; interactions add costs and there is a loss of value from ineffective use of resources” (p. 772).

Beyond workload, the deliberative character of co-creation makes disagreement inevitable. When conflict is not actively managed, two patterns emerge: decisions stall as consensus drags on, or agreements converge on lowest-common-denominator compromises that satisfy no one and bring about little change (Hambleton, 2019; Greenhalgh et al., 2016; Torfing et al., 2019). As the literature notes, “introducing co-creation will create unavoidable tensions and conflicts which actors and institutions need to deal with” (Mikkelsen & Røiseland, 2024, p. 3742). Without clear mandates, decision rules, and conflict resolution mechanisms, processes risk stalling, producing outputs that are weak, delayed, and lacking in ambition (Mikkelsen & Røiseland, 2024; Haustein & Lorson, 2023). Put differently, the absence of credible pathways to settle disagreements converts dialogue into delay. Torfing et al. (2019) therefore argue that “co-creation may lead to deep and destructive conflicts that either create a stalemate or result in a compromise based on the least common denominator” (pp. 808–809). Consequently, reaching consensus often “just takes too long” (Hambleton, 2019, p. 276), resulting in stakeholder fatigue, gridlock, and a strategic retreat by some actors (Hambleton, 2019; Greenhalgh et al., 2016; Torfing et al., 2019; Mikkelsen & Røiseland, 2024).

Finally, hybrid governance arrangements and the distribution of responsibility across actors from multiple sectors can blur lines of authority and reduce transparency of decision-making within co-creation processes. For Bovaird (2007), “the strongest concern” about co-creation is that “it may dilute public accountability, blurring the boundaries between the public, private, and voluntary sectors” (p. 856). Torfing et al. (2019) explain that these “difficulties with ensuring democratic accountability” arise “due to the participation of non-elected actors and the lack of formal and transparent decision-making and monitoring” (pp. 808–809). When it is unclear who is ultimately accountable for decisions or when oversight

structures are lacking, both procedural legitimacy and substantive accountability suffer (Bovaird, 2007; Torfing et al., 2019).

3. *Knowledge and data integrity risks*

Knowledge- and data-related risks include expert dominance, data silos, low credibility of community-generated data, digital exclusion, and data manipulation (Gudowsky & Peissl, 2016; Njue et al., 2019; Zhang et al., 2023; Yu et al., 2019; Szarek-Iwaniuk & Senetra, 2020).

The literature flags broader “criticisms and concerns about the reliability and credibility of data collected” (Njue et al., 2019, p. 3), particularly when methodological standards are unclear (Hegger et al., 2012). Co-created datasets may be of low quality, fragmented, manipulated, or misused, undermining the integrity of knowledge production and public trust (Szarek-Iwaniuk & Senetra, 2020). In particular, “data from different sub-system sites of practice” remain “in silos and hard to integrate” (Zhang et al., 2023, p. 368) and “may become neglected or redundant” (Karpouzoglou et al., 2016, p. 46). This means that without robust standards for knowledge validation and responsible data governance, co-creation of evidence can produce confusion rather than clarity (Njue et al., 2019; Zhang et al., 2023; Karpouzoglou et al., 2016; Hegger et al., 2012).

Meanwhile, despite co-creation’s focus on citizen perspectives, technical professionals or institutional actors may still overshadow the voices of laypeople and marginalise community or Indigenous knowledge and lived experience in favour of technocratic reasoning (Yu et al., 2019; Zhang et al., 2023; Cvitanovic et al., 2015; Tengö et al., 2014). The result is participation that appears inclusive on paper but functions as top-down decision-making in practice, perpetuating and even legitimising existing inequalities (Gudowsky & Peissl, 2016; Cvitanovic et al., 2015; Steccolini, 2019; Turnhout et al., 2020). This happens particularly when engagement formats, such as jargon-laden meetings or poorly facilitated digital tools, are inaccessible or intimidating for non-experts.

Notably, digital engagement tools are often poorly designed, difficult to use, or vulnerable to manipulation, such as through survey flooding or unverified inputs. For instance, in digital surveys, “respondents could manipulate surveys by completing the geo-questionnaire multiple times” and “the questions could be incomprehensible” (Szarek-Iwaniuk & Senetra, 2020, pp. 15–16). These flaws are frequently the result of insufficient co-testing with users and a lack of attention to user diversity and accessibility (Szarek-Iwaniuk & Senetra, 2020; Lee-Geiller & Lee, 2019; Karpouzoglou et al., 2016; Yu et al., 2019).

In such cases, co-creation reinforces existing epistemic hierarchies rather than challenging them and typically leads to “the dominance of one knowledge system over the others” (Cvitanovic et al., 2019, p. 24; Gudowsky & Peissl, 2016; Sherriff et al., 2019; Cvitanovic et

al., 2015; Steccolini, 2019). When this occurs, one of the core promises of co-creation, i.e., producing better and integrated knowledge, is weakened, and decisions risk being based on partial or distorted evidence (Karpouzoglou et al., 2016; Njue et al., 2019).

However, it is also possible that participatory governance may lead to an overshadowing of professional experience and knowledge. Recent research on the legalization of re-creational marijuana implies that in a co-creation exercise, the voices of medical experts might be outweighed by experiences of laypeople and business owners who push for a particular policy agenda (Ansell et al. 2025).

4. *Distributional and justice risks*

Co-creation also carries distributional risks, where outcomes or responsibilities are unevenly shared. This includes de-responsibilisation and burden shifting (placing disproportionate delivery responsibilities on citizens and communities without adequate institutional support) and depoliticised technical fixes that obscure inequality (Nabatchi et al., 2017; Trischler & Charles, 2019; Cousins, 2021; Turnhout et al., 2020).

At times, co-creation can lead to the offloading of responsibility and risk onto communities without adequate institutional support, which can result in “burnout of users or community members” and further “dilute public accountability” (Bovaird, 2007, p. 856). Trischler and Charles (2019), for instance, stress the “risk of ‘responsibilisation’ and over-burdening citizens,” particularly when co-creation “is assumed unavoidable” (p. 24). Under the rhetoric of empowerment, citizens may be expected to take on roles in service delivery or governance without the corresponding resources or institutional backing. This pattern is especially prevalent in austerity-driven environments, where co-creation is used to justify the withdrawal of state responsibility (Fratini et al., 2025). Coupled with a normative push towards constant and pervasive co-creation, this trend normalises the transfer of risk and delivery burdens to citizens, thus deepening existing inequalities, particularly in already under-resourced communities (Bell & Pahl, 2018; Linders, 2012; Nabatchi et al., 2017; Trischler & Charles, 2019; Torfing et al., 2019; Cousins, 2021).

Some co-creation initiatives are also criticised for greenwashing or rendering “complex social and ecological processes technical,” thus running “the risk of creating apolitical solutions that exclude political-economic structures” (Cousins, 2021, p. 6). Particularly in smart city or nature-based/ sustainability interventions, participatory processes may mask inequalities or avoid hard political questions about distributional justice, which Cousins et al. (2021) label as “a ‘dark side of transformation’” (p. 3). Technocratic framing and private-sector dominance can transform co-creation into a legitimising tool for status quo solutions, rather than a platform for genuine transformation (Cousins, 2021; Dushkova & Haase, 2020;

Newell et al., 2019; Fratini et al., 2019; Voytenko et al., 2016). Meanwhile, “depoliticisation dynamics in co-production reinforce rather than mitigate existing unequal power relations” (Turnhout et al., 2020, p. 15). For instance, in urban contexts, the literature warns of gentrification risks, where well-intentioned interventions to improve neighbourhoods may drive out the very residents they were meant to benefit (Dushkova & Haase, 2020; Cousins, 2021).

Co-creation efforts may also be perceived as externally imposed or serving the interests of outsiders (e.g., tourists, investors), rather than reflecting the lived realities and priorities of local communities. For instance, co-creation initiatives in city brand development often lack support when “residents feel that the brand is not for them, but for tourists” (Casais & Monteiro, 2019, p. 235). When communication and framing fail to resonate locally, participation weakens and legitimacy erodes (Casais & Monteiro, 2019; Newell et al., 2019; Fratini et al., 2019).

5. *Scaling and sustainability failures*

Even where co-creation pilots are well-designed and effective, they often remain isolated and fail to achieve systemic adoption (Eriksson et al., 2017; Ziervogel et al., 2022). Legalistic procedures, siloed bureaucracies, and risk-averse authorising environments absorb the novelty of co-creation and dilute it into incremental improvements (Van Gestel et al., 2023; Torfing et al., 2024; Leino & Puumala, 2021; Ege et al., 2025; Eriksson et al., 2017; Ziervogel et al., 2022). As a result, many documented cases of co-creation remain only marginally realised, i.e., successful within the project lifecycle but failing to achieve systemic adoption or policy integration (Voorberg et al., 2017a; Ege et al., 2025). For instance, Ege et al. (2025) find evidence that “the practical implementation and scaling of co-creation have been slow” (p. 3), which Eriksson et al. (2017) attribute to “the temporary and one-off nature of projects,” which also “makes inter-project learning problematic” (p. 22).

6. *Mistrust and co-destruction of public value*

In more severe scenarios, co-creation efforts generate worse outcomes. Rather than building trust or legitimacy, poorly designed or manipulated processes can lead to disappointment, increased cynicism, higher costs, and suppression of dissenting voices (Williams et al., 2020). For instance, Wamsler et al. (2020) argue that in the context of climate adaptation and nature-based solutions, “citizen engagement often hampers sustainable outcomes” (p. 235), particularly because of “dangerous trade-offs between participation, democracy, and co-creation, and centralisation, authority, and technocracy” (Scognamiglio et al., 2023, p. 65).

Moreover, market-oriented co-creation initiatives bring their own pitfalls. Platform-based services, for example, can suffer from oversupply, misuse, or monopolisation, turning co-created value into public dissatisfaction. Hence, without proper regulation and stewardship frameworks, the public interest may be compromised by misaligned commercial incentives (Ma et al., 2019; Kirimtut et al., 2020; Voytenko et al., 2016). For instance, in the context of mobility platforms, “frequent vandalism of QR codes makes the system especially vulnerable to misbehaviour” while “the unreasonable flooding of shared bikes has led to piles of bikes occupying public spaces” (Ma et al., 2019, pp. 1153–1154).

Ultimately, co-creation can lead to a negative trust loop. If residents repeatedly provide input without seeing visible change or without receiving feedback on how their contributions were used, then participation fatigue sets in and communities disengage (de Jong et al., 2019; Bradley & Mahmoud, 2024; Leino & Puumala, 2021). This dynamic is aggravated, for instance, when the results of digital surveys are “disregarded by the authorities,” after which “some respondents could be discouraged from participating in subsequent surveys” (Szarek-Iwaniuk & Senetra, 2020, pp. 15–16). Similarly, Lennon et al. (2019) observe that in co-creation initiatives, “very often the role played by local communities is a minor one,” and “as a result, there is considerable potential for animosity or for wider community resistances to emerge” (p. 9).

When rules are opaque, outcomes feel predetermined, or processes are overly politicised, the gap between promise and delivery can erode public confidence even further (Acar et al., 2025; Torfing et al., 2021; Osborne et al., 2016; Wamsler et al., 2020; Chambers et al., 2021; Scognamiglio et al., 2023; Hügel & Davies, 2020). Disappointment of this kind is echoed in a recent book from France that reports disillusionment with citizen engagement in public governance (Loisel & Rio, 2024). This disengagement also affects public officials, who may inherit under-resourced and under-authorised participatory mandates and come to view co-creation as a burden rather than a capability (Merickova et al., 2015). At this point, co-creation not only underperforms but risks destroying public value as trust declines, accountability becomes less transparent, and resources are spent for limited or even counterproductive results (Acar et al., 2025; Torfing et al., 2021; Wamsler et al., 2020; Bovaird, 2007). So poorly implemented co-creation may make things worse.

Taken together, these risks underscore the need for careful institutional design, adequate resourcing, and genuine political commitment to ensure that co-creation delivers on its transformative potential rather than becoming an empty gesture or a source of unintended harm (Torfing et al., 2024; Chambers et al., 2021).

5.2.2 Causes of risk in co-creation practice

While the preceding discussion presents various risks of co-creation thematically, a closer look at the mechanisms behind them reveals how they often stem from deeper structural, institutional, and political dynamics, as shown in Table 8. In many contexts, participatory mechanisms are formally established but remain constrained by risk-averse bureaucracies, restrictive legal frameworks, and deliberate political control (Van Gestel et al., 2023; Torfing et al., 2024; Røiseland et al., 2024b). Decision-making power is retained by authoritative public actors, limiting the capacity of public input to influence outcomes (Torfing et al., 2019; Osborne & Strokosch, 2013). This results in symbolic engagement, diminished accountability, participant dissatisfaction, and declining trust when contributions are perceived as ignored or disregarded (Torfing et al., 2019; Bovaird, 2007; Szarek-Iwaniuk & Senetra, 2020; Bradley & Mahmoud, 2024).

Social, economic, and political inequalities, combined with the absence of counterweighting mechanisms, enable organised interest groups, technical experts, or social elites to dominate participatory processes (Ansell et al., 2024; Sørensen et al., 2021; Ackerman, 2004; Turnhout et al., 2020; Zafra-Calvo et al., 2020). Without targeted outreach, tailored support, and balancing measures, marginalised actors are excluded, decision-making becomes skewed towards narrow elite agendas, and policy priorities move away from underrepresented communities (Ansell et al., 2024; Sørensen et al., 2021).

An over-reliance on online platforms, inaccessible meeting venues, technical jargon, or poorly facilitated sessions systematically excludes those with limited digital literacy, mobility, or technical expertise (Szarek-Iwaniuk & Senetra, 2020; Linders, 2012; Gudowsky & Peissl, 2016). This reduces representativeness, narrows the diversity of inputs, and increases the risk of decisions being informed by incomplete or distorted evidence (de Jong et al., 2019; Njue et al., 2019; Hegger et al., 2012).

Under fiscal austerity or through a normative stance on co-creation, responsibilities for service delivery or governance may be transferred to communities without the necessary funding, training, or institutional support (Bell & Pahl, 2018; Nabatchi et al., 2017; Trischler & Charles, 2019; Torfing et al., 2019; Van Gestel et al., 2023). This results in volunteer burnout, uneven service quality, and the exacerbation of social inequalities (Bovaird, 2007; Nabatchi et al., 2017).

Co-creation initiatives launched without clear mandates, defined timeframes, or structured conflict-management pathways are prone to delays, resource inefficiencies, and lowest-common-denominator compromises (Torfing et al., 2019; Hambleton, 2019; Mikkelsen & Røiseland, 2024). The absence of formal decision procedures increases the risk of

processes losing momentum before delivering tangible outcomes (Haustein & Lorson, 2023; Nevens et al., 2013).

Engagement processes designed primarily to serve political objectives through selective disclosure, strategic framing, or procedural manipulation undermine transparency and public confidence (Cairney & Oliver, 2017; Clark et al., 2016a; Chambers et al., 2021; Scognamiglio et al., 2023). Such approaches also reduce legitimacy, foster cynicism, and weaken the perceived integrity of any outcomes achieved (Cairney & Oliver, 2017; Chambers et al., 2021).

Bureaucratic silos, restrictive sectoral mandates, and legal barriers to collaboration prevent the integration and scaling of successful pilots (Van Gestel et al., 2023; Yu et al., 2019; Zhang et al., 2023; Conteh & Harding, 2023). This fragmentation leads to duplication, inefficiency, and policy solutions misaligned with local needs (Homsy et al., 2019; Ege et al., 2025).

The absence of robust validation protocols, interoperable infrastructure, and transparent governance agreements on ownership and use results in co-created data that is unreliable, fragmented, or vulnerable to misuse (Tengö et al., 2014; Karpouzoglou et al., 2016; Njue et al., 2019; Zhang et al., 2023). Such weak data governance undermines both evidence credibility and the trust required for collaborative decision-making (Cvitanovic et al., 2015; Hegger et al., 2012; Karpouzoglou et al., 2016).

Failure to demonstrate how public input informs decision-making erodes trust and discourages future participation (Leino & Puumala, 2021; de Jong et al., 2019). In contexts with histories of unfulfilled commitments, this absence of feedback deepens cynicism and contributes to participation fatigue (Szarek-Iwaniuk & Senetra, 2020; Bradley & Mahmoud, 2024).

A narrow focus on technical solutions or private-sector-led innovation can marginalise debates on justice, equity, and systemic reform (Cousins, 2021; Dushkova & Haase, 2020; Newell et al., 2019). Without strong regulatory oversight, market-related co-creation initiatives risk monopolisation, declining quality, and the misappropriation of shared resources (Voytenko et al., 2016; Ma et al., 2019). Such outcomes can generate public backlash and damage the credibility of both the initiative and the actors and institutions endorsing it (Lennon et al., 2019; Ma et al., 2019).

Table 8. Co-creation risks and their principal causes

Causes	Risks
Risk-averse bureaucracies, restrictive legal frameworks, and deliberate political control	Tokenism and symbolic participation, dilution of accountability in hybrid governance, co-destruction of public value, public trust breakdown
Social, economic, and political inequalities combined with dominance of organised interests	Elite capture and biased representation, power asymmetries and expert dominance, representation gaps and digital exclusion, goal misalignment with local needs
Exclusionary or inaccessible formats and tools	Representation gaps and digital exclusion, design flaws in (digital) participation tools, data/knowledge governance pitfalls
Fiscal austerity, withdrawal of state responsibilities, and the normative view of co-creation	De-responsibilisation and off-loading of risk, burnout and disengagement, increased inequalities in service delivery
Unclear mandates and weak process management	Consensus drag and conflict mismanagement, high transaction costs and process fatigue, scaling failure and institutional inertia
Politically-driven process design	Co-destruction of public value, accountability dilution, public trust breakdown
Bureaucratic silos, restrictive sectoral/legal rules, and weak integration incentives	Scaling failure and institutional inertia, high transaction costs, goal misalignment
Lack of robust validation protocols, interoperable infrastructures, and clear data governance agreements	Data/knowledge governance pitfalls, public trust breakdown
Weak or absent feedback loops combined with histories of non-implementation	Public trust breakdown, consultation fatigue
Technocratic framing, depoliticisation, weak public regulation, and limited	Greenwashing and apolitical technical fixes, elite capture by business interests, public trust breakdown

Causes	Risks
oversight of market-linked initiatives	

6. Co-creation in practice

This section examines how co-creation is implemented, the challenges it faces, and how its outcomes are evaluated across different governance contexts. It moves from broad governance types to the concrete methods and tools used in practice, distilling a set of generic co-creation instruments from the literature and showing how these operate in combination rather than isolation. Building on this practical foundation, it outlines process design and implementation strategies, consolidating diverse stage models into a single, seven-stage framework that spans the full policy cycle. The analysis then turns to the obstacles that hinder effective co-creation, mapping structural and capacity constraints alongside other recurring barriers, and synthesising these into seven overarching challenge domains with their principal causes and consequences. Finally, the section reviews how co-creation outcomes are evaluated and classifies prevailing evaluation approaches according to their strengths and limitations. Together, these elements offer an integrated view of how co-creation can be designed, delivered, and assessed.

6.1 How is co-creation implemented?

6.1.1 Practical methods and tools of co-creation

Co-creation unfolds in “open arenas” where “decision-making combines ‘talk-centric’ deliberation with ‘action-centric’ learning based on iterative rounds of designing, prototyping, testing, and revision” (Ansell et al., 2024, p. 158). Various approaches to developing and implementing such arenas emerge from the literature. These approaches range from higher-level conceptual frameworks and models, such as citizen science and transition management, to specific tools and instruments, including citizen assemblies, deliberative mini-publics, living labs, and digital platforms (Kythreotis et al., 2019; Frantzeskaki, 2019; Ackerman, 2004; Linders, 2012; Torfing et al., 2021). For instance, Frantzeskaki et al. (2025) outline diverse methods and tools of co-creation, including “transition management, urban living labs, participatory resilience thinking, gamification, and regenerative design” (p. 11).

As summarised in Table 9, these tools serve distinct purposes and offer varying degrees of applicability across sectors, governance scales, and policy domains (Torfing et al., 2021; Voytenko et al., 2016). They are not mutually exclusive. In practice, they typically reinforce one another, follow logical sequences, or create enabling conditions for other tools to emerge or function more effectively (West et al., 2019; Ansell et al., 2024). However, the literature shows that specific co-creation tools are most often developed in isolation rather than in coordinated, synergistic combinations. When deployed without clear sequencing, coordination mechanisms, or a clear purpose, they may create redundancies, competition

for resources, or fragmented efforts that undermine the overall coherence and effectiveness of co-creation processes.

Taken together, these tools represent a flexible toolkit for policymakers and practitioners (Hofstad et al., 2023; Torfing et al., 2021):

- Experimental and transition labs generate options (Voytenko et al., 2016; Nevens et al., 2013).
- Deliberative forums come up with and/or authorise choices (Ackerman, 2004; Hambleton, 2019).
- Knowledge-production workshops develop novel insight (Tengö et al., 2017; Clark et al., 2016b; Gudowsky & Peissl, 2016).
- Digital platforms extend reach and connectivity (Lee-Geiller & Lee, 2019; Linders, 2012; Yu et al., 2019).
- Design-led processes translate insights into service innovations (Donetto et al., 2015; Trischler & Charles, 2019).
- Boundary-spanning organisations maintain linkages across institutional and sectoral divides, ensuring that evidence can travel across policy contexts (Cash et al., 2006; Cvitanovic et al., 2015; Armitage et al., 2012).
- Industry partnerships embed co-creation through delivery (Eriksson et al., 2017; Wang & Ran, 2025; Vellema & Van Wijk, 2015).
- Civic mobilisation continually introduces new participants, perspectives, and ideas (Merickova et al., 2015; Bovaird, 2007; Leino & Puumala, 2021).

Table 9. Principal co-creation tools

Co-creation tool	Core purpose	Typical forms	Strengths	Limitations	Typical sectors
Experimental labs	Discover, test, and learn into solutions for complex place-based problems.	Urban Living Labs and Urban Transition Labs	Create safe-to-fail environments for testing innovative solutions, reveal trade-offs in real-world contexts, and generate scalable prototypes with low upfront risk.	Resource-intensive to establish, outcomes can be fragmented if scaling pathways are unclear, and participation can skew towards already-engaged groups.	Urban regeneration, climate adaptation, circular economy, health innovation, and community development.
Deliberative forums	Build durable consent, traceable decisions, and shared oversight.	Multi-stakeholder councils, participatory budgeting, citizen juries, and deliberative mini-publics	Build durable legitimacy and consensus, create traceable links from evidence to policy, provide structured oversight for implementation.	Time- and resource-intensive, may be vulnerable to elite capture, and outputs risk being ignored if not formally embedded in statutory processes.	Environmental governance, infrastructure planning, health policy, budgeting, and fiscal prioritisation.
Knowledge-production workshops	Create shared problem framings, insight, and evidence that can travel into policy.	Foresight workshops, serious games, and environmental virtual observatories.	Integrate diverse knowledge systems, produce shared problem framing, and generate evidence that travels across levels and sectors.	Requires skilled facilitation and sustained engagement, outputs risk low uptake without clear policy linkages, can be slow-moving in urgent contexts.	Environmental management, foresight and strategic planning, urban systems modelling, and disaster risk reduction.
Digital and platform-mediated co-creation	Reach citizens and coordinate at scale, capture and route contributions transparently.	PPGIS/geo-questionnaires, city portals, open-design platforms, mobile apps, and transboundary learning portals.	Enables large-scale participation at low marginal cost, provides traceability of inputs, and facilitates rapid feedback loops.	Risks excluding digitally marginalised populations, requires strong data governance, and has potential for manipulation or low-quality contributions.	Urban planning, service delivery feedback, environmental monitoring, and civic reporting.

Design-led service innovation	Reconfigure services and user journeys with users and staff.	Experience-Based Co-Design, journey maps, service blueprints, and quality-function deployment.	Translates policy objectives into tangible service improvements, builds organisational capacity for ongoing innovation, and focuses on user experience.	Can be resource-intensive, risks being confined to pilot projects without scaling, and requires a culture open to iterative change.	Health services, social care, public transport, and housing services.
Boundary-spanning organisations	Keep actors, evidence, and commitments aligned across sectors and levels.	Steering/consulting committees, knowledge-broker networks, and embedded researchers.	Maintain trust and coherence across sectors, reduce transaction costs in multi-actor collaborations, and preserve institutional continuity across political cycles.	Effectiveness depends on stable funding and clear mandate and may be perceived as bureaucratic if not visibly adding value.	Environmental governance, science-policy interfaces, regional development, and transboundary water management.
Industry partnerships	Deliver capital-intensive or risky projects through shared incentives and joint problem-solving.	Partnering contracts, PPPs, special-purpose vehicles, sector “dialogues” for standards, and cross-firm coalitions.	Align commercial and public value objectives, embed co-creation in service delivery and operations, and spread risk in capital-intensive projects.	Risk of public interest being overridden by commercial priorities, requires strong governance frameworks, and can concentrate influence among large actors.	Infrastructure, energy transition, technology deployment, and public transport systems.
Civic mobilisation	Widen the contributions, surface latent ideas, and recruit new actors.	Idea contests, neighbourhood assemblies/festivals, grassroots groups with small grants, volunteer builds, and pop-up engagement.	Broadens participation base, generates novel ideas from non-traditional actors, and builds local capacity and social capital.	Mobilisation capacity may be contingent on unevenly distributed resources, outputs may lack technical feasibility, volunteer-driven models risk burnout, and sustaining momentum without institutional	Community development, local resilience, public health promotion, and grassroots environmental action.

linkages can be
challenging.

Experimental labs

When challenges are complex, ambiguous, and place-specific, experimental labs provide structured environments where innovation can be trialled in public settings (Voytenko et al., 2016; Cousins, 2021). For instance, within the urban development context, some scholars argue that “suitable spaces and transition arenas for collaborative forms of urban governance are required, where the connections among actors can be established and the boundaries between sectors, interests, and contexts are subject to further exploration” (Puerari et al., 2018, p. 2). This has led to the emergence of arenas like Urban Living Labs and Urban Transition Labs that bring together residents, public authorities, researchers, and private actors to move from exploration to “safe-to-fail” experimentation, followed by joint evaluation, as depicted in Box 1 (Cousins, 2021, p. 7; Voytenko et al., 2016; Nevens et al., 2013).

In experimental-lab approaches, “co-creation, exploration, experimentation, and evaluation are highlighted as the main principles” (Voytenko et al., 2016, p. 49), typically relying on “a series of workshops” where new ideas and activities are “tested, evaluated and (often) rejected or (otherwise) adapted to the specific context” (West et al., 2019, p. 546). Activities often take place in local or community settings (e.g., streets, parks, clinics, or housing estates) and produce tangible prototypes such as community kitchens, gardens, or co-built infrastructure (Leino & Puumala, 2021; Frantzeskaki, 2019). Transition Labs typically follow a staged process (system analysis, envisioning, back-casting, experimentation, and reflexive monitoring), allowing a more structured process where weak ideas are phased out early (Nevens et al., 2013).

Box 1. Urban Transition Lab (UTL): A co-creation platform for urban sustainability (based on Nevens et al., 2013)

What it is: A hybrid, transdisciplinary “institutional site” where city actors and researchers co-design, test, and scale solutions to persistent urban challenges, tailoring transition knowledge to local context. UTLs function as protected governance niches that convene frontrunners from public, private, civic, and research communities.

Purpose: Turn long-term sustainability visions into action by coupling participatory problem-structuring with real-world experimentation, learning, and policy translation.

Core process: Transition management cycle: 1. System analysis (actors, institutions, stocks/flows) → 2. Problem structuring and envisioning (shared priorities, guiding principles) → 3. Backcasting and pathway design (targets, roadmaps) → 4. Experimenting (high-risk, real-life pilots linked to the vision) → 5. Monitoring and reflexive evaluation (iterate; translate lessons into policy, standards, and investments).

Who's involved: A small transition team (process facilitation, conflict mediation, learning), plus frontrunners and pathway-specific networks (municipal units, utilities, firms, NGOs, residents, universities).

Outputs: Shared vision and transition agenda; portfolios of experiments; learning products and metrics; policy/organizational adjustments (e.g., permitting, procurement, spatial rules).

Practical value: Connects long-term visions to “on-the-ground” change; builds cross-sector coalitions; surfaces barriers and enablers; enables scaling across city systems (energy, mobility, buildings, ecosystems).

Risks/limits: Requires time, political cover, and acceptance that some experiments will fail. Learning is the deliverable.

These labs often produce a pipeline of solutions at different stages of maturity, creating options for scaling or replication (Mikkelsen & Røiseland, 2024; West et al., 2019; Torfing et al., 2024). Their value lies in enabling discovery at low risk, uncovering trade-offs in context, and developing solutions that are robust enough to be adopted in policy or service delivery (Voytenko et al., 2016). They are particularly effective in urban regeneration, climate adaptation, and community development (Frantzeskaki, 2019; Ziervogel, 2019; Leino & Puumala, 2021). However, they can be resource-intensive to establish, risk fragmented outcomes if scaling pathways are weak, and participation may skew towards groups that are already engaged (Voytenko et al., 2016; Wamsler et al., 2020).

Deliberative forums

Deliberative forums are formal tools for shared decisions. They are used in situations where legitimacy, accountability, and decision durability are of key importance (Ackerman, 2004; Bovaird, 2007). Examples include multi-stakeholder councils, participatory budgeting, citizen juries, and deliberative mini-publics (Ackerman, 2004). City-wide initiatives such as “One City” combine large gatherings, cross-sector teams, and funding boards with ongoing public reporting, aiming to create “highly interactive ‘city conversations’” and “explore ideas on how to tackle major challenges,” as depicted in Box 2 (Hambleton, 2019, p. 275). These forums do more than collect citizen input. They also establish mandates, align stakeholders, and provide oversight mechanisms to ensure implementation (Graversgaard et al., 2017; Medema et al., 2017; Sørensen et al., 2021).

Box 2. One City Approach: Place-based co-creation through New Civic Leadership in Bristol (UK) (based on Hambleton, 2019)

What it is: A citywide governance model anchored in a City Office that convenes public, private, civic, and academic leaders to co-create solutions to urban challenges, shifting from top-down management to place-based leadership and collaborative innovation.

Purpose: Unite “public purpose” across Bristol by turning dispersed energies into coordinated action, mobilising the power of place to tackle complex issues (inequality, homelessness, growth) beyond the capacity of any single organisation.

Core process: 1. City gatherings: regular cross-sector forums (100–200 participants) to surface priorities and form action teams. 2. Innovation zone: a shared workspace beside the mayor’s office for weekly collaboration, presentations, and trust-building. 3. Collaborative projects: targeted initiatives (e.g., Street Homelessness Challenge) delivering tangible, near-term improvements through unconventional partnerships. 4. One City Plan: a shared long-term strategy to 2050 aligning actors and investments around citywide goals. 5. Leadership development: programmes to broaden and diversify place-based leadership capacity across sectors and communities. 6. City Funds Board: blended finance (match-funding, loans, grants) focused on One City priorities.

Who’s involved: Political, public managerial/professional, community, business, and trade union leadership, overlapping “innovation zones” where differing perspectives generate new ideas (and manage conflict).

Outputs: Cross-sector coalitions; pilot solutions (e.g., emergency beds for homelessness, repurposed buses); a shared vision and roadmap (One City Plan); new funding vehicles; and institutionalised spaces for collaboration.

Practical value: Makes collaboration visible, routine, and resourced; links strategy to delivery; converts civic identity into implementation capacity; and provides a replicable template for cities pursuing co-creation.

Risks/limits: Success depends on political cover, time for relationship-building, and resisting recentralisation; consensual processes may be slower and vulnerable to austerity and over-centralised national frameworks.

The most effective forums are well-integrated into statutory decision-making, ensuring that outputs are not only discussed but acted upon (Ackerman, 2004; Sørensen et al., 2021). They are common in environmental governance, infrastructure planning, health policy, and budgeting (Graversgaard et al., 2017; Eriksson et al., 2017; Donetto et al., 2015; Ackerman, 2004). For instance, in water governance, “the mechanism for interaction between the [watershed organisations] and stakeholder groups includes consultation tables and technical or scientific committees” (Medema et al., 2017, p. 14). The value generated is durable consensus, transparent decision-making, and traceability from evidence to action

(Ackerman, 2004). The challenges include high time and resource demands, vulnerability to elite capture, and the risk of outputs stalling if not embedded in statutory processes (Turnhout et al., 2020; Wamsler et al., 2020).

Knowledge-production workshops

When evidence is fragmented or contested, co-creation may take the form of collaborative knowledge production workshops (Tengö et al., 2017; Clark et al., 2016b; Stephenson et al., 2019). For instance, Karpouzoglou et al. (2016) emphasise how “stakeholder involvement exercises such as focus groups, games and experiments, and interactive group exercises are also an important component of actionable knowledge generation” (p. 44). Such activities mobilise, translate, negotiate, synthesise, and apply diverse forms of knowledge and expertise (Tengö et al., 2017). These formats not only help reconcile differing perspectives and evidence bases but also strengthen legitimacy if they ensure broad and balanced stakeholder representation in the formulation of shared strategies. An illustrative example comes from France, where eight working groups “gathered more than 240 people, representing over 120 different organisations” to advance a new regional project (Fratini et al., 2019, p. 983).

Boundary objects, such as urban metabolism models, serious games, and stakeholder maps, provide a common frame for discussion (Newell et al., 2019; Jean et al., 2018; Trischler & Charles, 2019). For instance, Trischler and Charles (2019) note how “mapping techniques adopted from service design and information systems can assist policy makers by transforming systems or value constellations into visible dimensions” (p. 30). Similarly, processes like CIVISTI-style foresight link citizen visions with expert scenarios, ensuring that future-oriented deliberations remain tied to institutional pathways, as presented in Box 3 (Gudowsky & Peissl, 2016). Knowledge brokers, embedded scientists, and boundary organisations help maintain standards for producing, sharing, and applying generated knowledge (Cvitanovic et al., 2015; Clark et al., 2016b).

Box 3. CIVISTI-style foresight workshop: Vision-led co-creation for citizen-informed research and policy in the EU (based on Gudowsky & Peissl, 2016)

What it is: A transdisciplinary foresight and co-creation method that starts with citizens’ visions of desirable futures and iteratively engages stakeholders, experts, and policymakers to turn those visions into needs-based research and policy agendas (EU Horizon context).

Purpose: Generate socially robust knowledge for strategy and programme design by combining lay perspectives with expert/stakeholder input, supporting anticipatory, responsible STI governance.

Core process: 1. Citizen visioning (30 countries, 1,088 citizens → 179 visions) using creative facilitation; heterogeneous sampling by age, gender, education, occupation, and place. 2. Needs extraction: researchers synthesize visions into 29 social needs and 12 clusters. 3. Multi-actor co-creation workshop: >100 experts, stakeholders, and citizens translate needs into research scenarios (e.g., directions, questions, state-of-the-art) — 48 scenarios produced. 4. Feedback and prioritisation: scenarios are fed back to citizens (face-to-face/online) for evaluation, then aligned with EU programming via policy dialogues and a pan-EU conference.

Who's involved: Citizens (laypersons) for upstream visioning and prioritisation; experts and stakeholders for translation and feasibility; policy officials for programme alignment; a facilitation/analysis team for synthesis and knowledge management.

Outputs: A catalogue of citizen visions, a mapped set of social needs, co-created research scenarios, and prioritised topics in a form usable for calls/programmes; strengthened cross-actor networks.

Practical value: Brings public values upstream into research agendas; improves legitimacy and relevance; builds ownership and trust across actor groups.

Risks/limits: Requires strong knowledge-integration rules, committed policy “gatekeepers,” and clear pathways from visions to actual programme changes; without these, impacts can remain symbolic.

These workshops often yield outputs that are directly integrated into planning processes or investment strategies, thereby enhancing their policy relevance (Fratini et al., 2019; Stephenson et al., 2019). The result is shared problem framing and guidance that can travel across sectors and governance levels (Clark et al., 2016b). They are typically applied in environmental management, foresight exercises, and disaster risk reduction (Armitage et al., 2011; Gudowsky & Peissl, 2016). However, they require skilled facilitation, long-term engagement, and strong policy linkages to ensure uptake (Cvitanovic et al., 2015; West et al., 2019).

Digital and platform-mediated co-creation

Digital infrastructures extend participation through self-service portals, two-way communication channels, idea-generation platforms, and cross-boundary learning systems (Linders, 2012; Torfing et al., 2021; Yu et al., 2019). Geographic tools, such as PPGIS and geo-questionnaires, ground stakeholder input in place and context, while participatory portals route issues directly to the responsible units (Szarek-Iwaniuk & Senetra, 2020; Lee-Geiller & Lee, 2019). As John and Supramaniam (2024) note, “utilising digital platforms, mobile apps, and virtual-reality tools enables interactive collaboration and feedback collection” (p. 106).

Moreover, “digital platforms may help facilitate matchmaking, all-to-all communication, knowledge-sharing, idea exchange, and the co-creation of outputs and outcomes” (Torfing et al., 2021, p. 18). Collectively, these technologies expand the reach, speed, and inclusivity of co-creation processes, while also offering new modalities for sustained engagement across geographic and institutional boundaries.

Box 4. Mobike: free-floating bike-sharing as value co-creation in China (based on Ma et al., 2019)

What it is: A smartphone-enabled, free-floating bike-sharing (FFBS) service launched in 2016 that integrates production and consumption through a platform where users actively co-produce service quality (finding, unlocking, riding, parking, reporting).

Purpose: Provide low-carbon “last-mile” mobility and complement mass transit, shifting trips from private cars/taxis to a subway + bike intermodal pattern and advancing sustainable consumption and production (SCP).

Core process: 1. Locate and unlock via app (GPS + QR smart lock) → 2. Ride (user behavior affects safety, durability) → 3. Return and report (legal parking; flag faults) → 4. Firm operations (rebalancing, maintenance; dynamic incentives/penalties via credit scoring).

Who’s involved: Users (as co-producers/co-regulators through proper use, reporting); the company (PSS operations, data, maintenance); city authorities (rules, bike lanes/parking); non-user citizens (shared public space).

Outputs: Increased bike access near transit; modal shift toward active travel; large data streams for network management; emergent self-regulation via credit scoring to curb vandalism/illegal parking.

Practical value: Demonstrates how platform design and user practices can co-create urban sustainability benefits at scale (reduced car trips, lower emissions) and reveal where infrastructure/policy gaps (bike lanes, parking rules) constrain outcomes.

Risks/limits: Misuse (vandalism, improper parking), winner-takes-all expansion leading to oversupply and public-space “tragedy of the commons,” and durability/maintenance challenges that erode SCP gains if unmanaged.

Effective platforms incorporate stewardship mechanisms (i.e., assisted access, moderation, and transparent data governance) to maintain inclusivity and trust (John & Supramaniam, 2024; Torfing et al., 2021). For example, “both Mobike and EVCARD issued a credit-scoring policy to punish misbehaviour and to incentivise consumers [to] help detect and prevent other people’s misbehaviour,” as shown in Box 4 (Ma et al., 2019, p. 1154).

Likewise, integration with offline engagement ensures that digitally excluded groups are not left out (Linders, 2012). These platforms are valuable in urban planning, service delivery feedback, citizen reporting, and environmental monitoring (Lee-Geiller & Lee, 2019; Njue et al., 2019). The primary value is scale, speed, and traceability of input, without sacrificing representativeness or quality of data (Lee-Geiller & Lee, 2019). The limitations are tied to the digital divide, the need for robust data governance, and the risk of manipulation or low-quality inputs without proper moderation and stewardship (Linders, 2012).

Design-led service innovation

In public services, co-creation is frequently operationalised through design methodologies (Trischler & Charles, 2019). For instance, Experience-Based Co-Design begins by capturing lived experiences, proceeds through joint prioritisation and small-scale co-design teams, and concludes with implementation and review (Donetto et al., 2015). Tools include journey mapping, service blueprints, and quality-function deployment (Trischler & Charles, 2019). These approaches create measurable improvements in service quality while building internal capacity for ongoing innovation (Greenhalgh et al., 2016).

Design-led methods are particularly effective in translating abstract policy objectives into concrete service changes that directly improve user experience (Bate & Robert, 2007; Donetto et al., 2015). They are prominent in health services, public transport, and housing (Donetto et al., 2015; Zhang et al., 2023; Leino & Puumala, 2021). However, they can be resource-intensive, risk remaining in the pilot stage without effective scaling strategies, and require cultures that are open to iterative learning (Bate & Robert, 2007; Donetto et al., 2015; Cousins, 2021).

Box 5. Experience-Based Co-Design (EBCD): participatory service improvement in healthcare (based on Donetto et al., 2015)

What it is: A design-informed, participatory approach that brings patients, carers, and staff together to improve service quality by co-analysing experiences and co-designing changes; typically run over 9–12 months in six stages.

Purpose: Move beyond consultation to shared problem-framing, priority-setting, and implementation, reshaping relationships between citizens and public services and embedding user experience in routine improvement.

Core process: 1. Set-up and team formation → 2. Staff experiences (observation/interviews) → 3. Patient/carer experiences (observation + 12–15 filmed narrative interviews; edited “trigger film”) → 4. Joint patient–staff event to agree improvement priorities → 5. Small co-design groups (4–6 workstreams) to develop and test changes → 6. Review/celebration and next-step planning.

Who's involved: Patients and carers; frontline clinicians and managers; facilitators/service designers; occasionally external partners (e.g., charities, other hospitals) depending on the pathway.

Outputs: Concrete improvements (from small-scale fixes like better information and waiting-time updates to process redesign within/between services), strengthened patient–staff relationships, and transferable methods/toolkits.

Practical value: Proven to engage patients and staff, surface “touchpoints” that matter, and deliver rapid, patient-centred changes.

Risks/limits: Co-design phases are often the weakest link (under-resourced, adapted away, or staff-led), and power dynamics can revert to hierarchy post-workshop; success depends on facilitation capacity, protected time, and organisational follow-through.

Boundary-spanning organisations

Boundary-spanning organisations and hybrid partnerships operate at the interface between communities, science, and public administration (Cash et al., 2006; Clark et al., 2016b; Cvitanovic et al., 2015). They create neutral spaces, translate between professional and lay vocabularies, develop boundary objects, and steward agreements on data governance (Clark et al., 2016b; Cvitanovic et al., 2015). Examples include steering/consulting committees, embedded researchers in agencies, digital platforms, and multi-level and cross-sector networks (Prandini & Ganugi, 2024; Cvitanovic et al., 2015; Medema et al., 2017). Although these organisations may have specialised roles, “they also function across or outside defined roles, and therefore, provide the context for different actors to make sense of information, learn about challenges, and work together to build knowledge in a collaborative manner” (Armitage et al., 2012, p. 252).

The primary contribution of boundary-spanning organisations is maintaining trust, coherence, and information flows across institutional boundaries and timeframes (Cash et al., 2006; Armitage et al., 2012). For instance, according to Karpouzoglou et al. (2016), platforms like Environmental Virtual Observatories allow information flows to reach “across multiple actors and networks” (p. 44) and work in “a decentralised, multi-level, and multi-directional manner” (p. 45). This is achieved by their diverse composition of actors from various domains. In water governance, for example, water councils and watershed organisations, as described in Box 6, are required to ensure a balanced representation of stakeholders from sectors, such as the government, First Nations, municipal, economic, environmental, agriculture and community sectors” (Medema, et al., 2017, p. 11).

Box 6. Watershed Organizations: bridging actors for multilevel, adaptive water governance (based on Medema et al., 2017)

What it is: Place-based, multi-actor bodies (e.g., catchment councils/authorities, river basin boards) that bridge state and non-state actors to plan, coordinate, and monitor water resources at the catchment scale, where ecological and governance boundaries can be aligned (“fit”).

Purpose: Improve conservation and allocation outcomes by matching institutions to hydrological systems, enabling cross-scale linkages (local–regional–national), and supporting adaptive management and social learning in complex water regimes.

Core process: 1. Scale and fit: align planning and rules with basin dynamics; address spatial/temporal mismatches. 2. Knowledge co-production: combine scientific data with user and Indigenous/local knowledge via joint fact-finding. 3. Coordination and brokerage: create vertical/horizontal links among agencies, users, firms, and civil society; act as bridging organizations. 4. Adaptive cycle: monitor, learn, and iterate; adjust measures to disturbances and feedbacks; manage trade-offs transparently.

Who’s involved: Government water/environment agencies (multiple levels); catchment management organizations; water users (agriculture, utilities, industry); community/NGOs; researchers; and market actors where water trading exists.

Outputs: Basin plans and allocation rules; coordinated investment and restoration actions; networks and protocols for information flow; conflict-resolution pathways; evidence syntheses that travel across tiers (local to national).

Practical value: Watershed organizations can reduce mismatches, enable learning-by-doing, and translate diverse knowledge into workable rules, often outperforming purely top-down arrangements.

Risks/limits: Potential elite capture, unclear accountability in hybrid networks, and added coordination costs; effectiveness depends on an enabling regulatory framework, stable mandates, and resources for facilitation and monitoring.

By sustaining relationships and structures over time, boundary-spanning organisations help co-creation survive political turnover, staff changes, and shifting priorities (Cash et al., 2006). These bodies act as relational infrastructure in environmental governance, science-policy interfaces, and regional development (Armitage et al., 2012; Clark et al., 2016b). However, their impact depends on secure mandates and funding, and they can be perceived as unnecessarily bureaucratic if their value is not clearly demonstrated (Armitage et al., 2012).

Industry partnerships

Where capital intensity and delivery risks are high, structured industry partnerships embed co-creation into contractual and operational arrangements (Eriksson et al., 2017; Wang & Ran, 2025). For instance, in public project delivery, various partnering arrangements are noted to “serve as engagement platforms for co-creation practices” (Eriksson et al., 2017, p. 25), while in some domains these are formalised as public–private–people partnerships (Ribeiro et al., 2019). Tools like partnering contracts, PPPs, and special-purpose vehicles share risk and incentivise joint problem-solving (Eriksson et al., 2017; Zhang et al., 2023) while sector dialogues and collaborative R&D initiatives co-produce standards and innovations, as shown in Box 7 (Vellema & Van Wijk, 2015). Such arrangements ensure that co-creation extends through the delivery phase, even under conditions of uncertainty (Eriksson et al., 2017). For example, collaborative partnerships “between public, private, and civil society stakeholders at different organisational levels” are considered necessary in water governance (Medema et al., 2017, p. 1).

Box 7. Aquaculture Stewardship Council (ASC) shrimp standard-setting: Global co-creation of sustainability standards for responsible seafood production in Indonesia
(based on Vellema & Van Wijk, 2015)

What it is: An NGO-initiated sustainability standard for farmed shrimp founded by WWF and IDH in 2009, linked to UN “Decent Work” norms and International Principles for Shrimp Farming. Designed globally but informed by producer-region input.

Purpose: Transform shrimp aquaculture toward environmental and social sustainability while assuring downstream retailers and consumers of responsible sourcing.

Core process: “Aquaculture Dialogues” – multi-stakeholder roundtables (since 2007) convened in producer regions across Africa, Latin America, and Asia. Participants included NGOs, conservationists, companies, academics, governments, and shrimp farmers; Dutch firms helped design monitoring/certification.

Who’s involved: Global/Supranational: WWF/ASC secretariat; international NGOs (e.g., IUCN, Oxfam Novib); European retailers and processors. National/Subnational (Indonesia case): Government ministries, regional officials, local processors/exporters, farmer representatives, and NGO coalitions (including critics).

Outputs: Iterative ASC draft standards (2010–2011) refined after consultations; final text aligned more closely with interests of regional processors/traders according to NGO analysis.

Practical value: Potential to leverage third-party enforcement and retailer demand to strengthen mangrove protection and improve practices if requirements can be adapted to

diverse producer contexts. Dialogues created a public arena linking global standard setters with local actors; opened space for Indonesian NGOs and officials to debate environmental policy and the feasibility of certifying extensive farms (not originally targeted).

Limits/risks: Perceived dilution of principles during drafting; power asymmetries with control of monitoring/enforcement remaining with global NGO–retailer coalitions. Low initial uptake where ASC was seen as a “European” burden; misfit with extensive farms (costs, labour formalisation, role of middlemen) risks excluding the majority of producers and undermining environmental goals.

Such partnerships are also common in infrastructure, energy transition, and public transport systems, where they can help align commercial incentives with public value objectives, ensuring that private sector innovation serves shared goals rather than narrow interests (Hofstad et al., 2023; Zhang et al., 2023). However, they require robust governance to ensure that public value is not subordinated to commercial priorities and to avoid the concentration of influence among large actors (Torfing et al., 2021).

Civic mobilisation

Civic mobilisation widens participation by engaging individuals and groups not typically involved in formal governance processes (Bebbington, 2000; Bovaird, 2007). The principal mechanism is “dialogue as action,” where activities like “football and cooking” are “put to use in initiating dialogic encounters” (Leino & Puumala, 2021, p. 790). Specific tools include open idea competitions, neighbourhood assemblies, pop-up events, and volunteer-driven projects, as presented in Box 8 (de Jong et al., 2019; Ackerman, 2004; Leino & Puumala, 2021; Merickova et al., 2015). Over time, community trusts and co-planning structures provide durable capacity, often supported through small grants, memoranda of understanding, or advisory roles (Bovaird, 2007; Sherriff et al., 2019).

Box 8. Hiedanranta Public Sauna: Co-creating a shared city asset in Tampere (Finland) (based on Leino & Puumala, 2021)

What it is: A two-year, citizen-led co-creation project to plan and build a public sauna in the Hiedanranta redevelopment area, used to test institutional agility and community capacity for shared assets.

Purpose: Activate a new district, translate citizen initiative into a tangible public good, and probe how co-creation performs amid real permitting, liability, and cross-departmental constraints.

Core process: 1. Open call → 50 citizens join; skills mapping & sponsorship search → 2. Co-design workshops; location and permitting negotiations → 3. Build phase (container sauna) → 4. Opening; a 400-member community maintains the asset. Researchers initiate, then step back to support self-organisation.

Who's involved: Residents/volunteers (young professionals, artists, wider community); researchers (as facilitators/participants); multiple city units (planning, permits); private sponsors.

Outputs: A jointly built public sauna; media visibility; documented processes (workshops, design sketches, skills database); learning on how bureaucratic rules shape co-creation.

Practical value: Demonstrates that co-creation can convert civic energy into shared infrastructure and strengthen local networks.

Risks/limits: Vulnerable to administrative delays (water quality, liability), participant fatigue, and “hype without institutional change” if authorities do not take ownership of next steps.

Civic mobilisation also acts as a recruitment channel for new leaders and innovators, feeding talent and ideas into more formal governance arrangements (Leino & Puumala, 2021). It is particularly effective in community development, local resilience, and grassroots environmental action (Leino & Puumala, 2021; Ziervogel, 2019; Frantzeskaki, 2019). For example, in one climate adaptation initiative, “the [community] ambassadors interacted extensively with the municipality and local businesses” (Ziervogel, 2019, p. 500). The value lies in diversifying participation, generating new ideas, and feeding early-stage prototypes into more formal co-creation arenas (Leino & Puumala, 2021). However, all stakeholders may not be able or willing to mobilise, leading to representation gaps, outputs may lack technical feasibility, volunteer-driven models are prone to burnout, and sustaining momentum without institutional connections can be difficult (West et al., 2019).

6.1.2 Descriptions of process design and implementation strategies

Different frameworks structure co-creation into distinct stages, reflecting variations in maturity, scope, and depth of the co-creation process. Some models focus on the degree of institutionalisation, such as the five-rung “ladder of co-creation,” which progresses from empowering individual co-creators to establishing fully institutionalised joint innovation arenas (Torfing et al., 2019). At the most basic level, “public agencies aim to empower citizens to enhance their capacity to master their own lives and encourage them to co-create the services they are offered by the public sector” (p. 804). The next stage expands this role, with citizens contributing not only to their own service provision but also creating benefits

for others, often through voluntary collaboration with public employees to refine and improve existing services. The third stage moves beyond service delivery, inviting individuals or organised groups to provide input into the development of new tasks and solutions through structured but limited consultation processes, such as surveys, workshops, or public hearings. At the fourth stage, engagement becomes more interactive, with public and private actors meeting in a more open, two-way exchange to design improved solutions and coordinate their implementation. At the top of the ladder, “relevant and affected actors from the public and private sector participate in institutional arenas that facilitate collaborative innovation based on joint agenda-setting and problem definition, joint design and testing of new and untried solutions, and coordinated implementation” (Torfing et al., 2019, pp. 804–805). This progression reflects a shift from individual empowerment within existing service frameworks to systemic, multi-actor collaboration for policy innovation and implementation.

In a relatively comparable yet distinct manner, Bonsón et al. (2015) explore public engagement through the lens of interaction types between citizens and government, identifying three primary modes. Citizen-to-government (C2G) interactions are primarily consultative and idea-generating in nature, providing channels for citizens to express views and contribute suggestions to public authorities. Government-to-citizen (G2C) interactions focus on informing and influencing behaviour, equipping citizens with data and insights to support informed decision-making. Citizen-to-citizen (C2C) interactions centre on self-organisation, enabling individuals and groups to coordinate, collaborate, and take collective action independently of formal government structures. Together, these modes reflect the multiple pathways through which public dialogue, knowledge exchange, and collective action can occur in public governance.

Other studies emphasise the extent of citizen participation, as in the citizen science participation framework, which specifies roles and expectations for data generation from contractual to contributory, collaborative, co-created, and collegial levels (Njue et al., 2019). In its most limited form, contractual participation involves research conducted exclusively by professionals. Contributory participation extends this by engaging citizens primarily as data collectors in projects designed and managed by researchers. Collaborative participation moves further along the spectrum, enabling citizens not only to collect data but also to contribute to refining project design, conducting analyses, and disseminating findings. Co-created participation involves citizens as equal partners in nearly all stages of the research process, from conception and design to implementation and interpretation. At the highest level, collegial participation sees individuals conducting research independently, often outside formal institutional structures, while still contributing to broader scientific knowledge. This progression reflects a shift from professional-led, limited

engagement towards inclusive, participatory approaches that empower citizens as active agents in knowledge creation.

Additional approaches propose typologies to distinguish forms of collaborative practice, such as the four-quadrant co-creation model, which categorises co-production, co-design, co-construction, and co-innovation according to the actors involved and the depth of engagement (Osborne et al., 2016). This framework functions as both an analytical lens and a design tool, “unpack[ing] how users and professionals interact across service and system levels” (p. 645). In its first form, value is created by addressing individual social needs in ways that contribute to broader societal benefit, for example, supporting people with disabilities to enhance their quality of life. The second form focuses on “the co-creation of value by the meeting of community needs through co-production in a way that adds to society” (p. 645), such as through neighbourhood regeneration initiatives that yield collective benefits. The third form captures the individual well-being generated as a result of these activities, whether targeted at individuals or communities, such as improving the day-to-day life of a person who has overcome barriers related to disability. The fourth form emphasises building social capital by developing the skills, capacities, and confidence of individuals or communities, enabling them to address challenges more effectively in the future. Collectively, these quadrants illustrate how co-production can simultaneously generate immediate benefits and strengthen long-term problem-solving capacity at the community and societal levels.

The most common approach in the literature, however, is to break the co-creation process into discrete steps and stages, as presented in Table 10.

Table 10. Various models for stages in co-creation

Model	Stages
Living Labs (Ribeiro et al., 2019)	Co-Exploring → Co-Design → Co-Production → Co-Decision → Co-Governance
Urban Living Labs (Voytenko et al., 2016)	Co-Creation → Exploration → Experimentation → Evaluation
Urban Transitions Labs (Neuens et al., 2013)	System Analysis → Envisioning Workshops → Participatory Back-Casting → Transition Experiments → Reflexive Monitoring
CIVISTI-style transdisciplinary workshop (Gudowsky & Peissl, 2016)	Citizen Visioning → Expert/Stakeholder Scenario Workshops → Iterative Feedback Loops → Final Policy Conference
Five-task pipeline for knowledge production (Tengö et al., 2017)	Mobilise → Translate → Negotiate → Synthesise → Apply
Five-step co-creation cycle (Lang et al., 2024)	Co-Discussion → Co-Construction → Co-Governance → Co-Evaluation → Sharing

Six-stage service cycle of Experience-Based Co-Design (Donetto et al., 2015)	Set-Up → Ethnographic and Filmed Experience Capture → Joint Prioritisation → Small Co-Design Teams → Implementation → Celebration
Action learning in Environmental Virtual Observatories (Karpouzoglou et al., 2016)	Participatory → Action Research → Focus-Groups → Interactive Games → Participatory Modelling → Cognitive Mapping
Deliberative programmes with nested forums (Graversgaard et al., 2017; Medema et al., 2017)	Formal Councils/Committees → Local Working Groups → Public-Consultation Rounds → Joint Pilots → Outreach/Education
Iterative experimentation (Ansell et al., 2024)	Design → Prototype → Test → Revise
City-citizen interaction spectrum (Wamsler et al., 2020)	Information Gathering → Awareness Raising → Co-Production → Contestation
Five strategic steps in city/region scaling playbook (Røiseland et al., 2024a)	Pilot Experiments → Organisational Support → Design of Platforms → City/Region-Wide Scaling → Embed in Organisational DNA
Urban Innovation Partnership (Bradley & Mahmoud, 2024)	Pre-Phase Context Analysis → Communication Events → Trust-Building Workshops → Co-Design and Testing → Reflective Follow-Up

Rather than examining each of these models individually, this report integrates their key features into a consolidated seven-stage model, designed to capture their underlying logic and provide a coherent framework:

1. Authorise and convene

Co-creation begins by securing an explicit mandate and establishing a formal arena for collaboration, i.e., “meeting places where relevant actors can come together” (Torfing et al., 2021, p. 18). This may involve creating councils or committees, signing memoranda of understanding, launching participatory budgeting forums, or hosting city gatherings that bring large groups together (Prandini & Ganugi, 2024; Steccolini, 2019; Hambleton, 2019). These spaces clarify who is involved, the authority they hold, and how governance will operate. Convening is a substantive act, setting the parameters for participation and accountability (Graversgaard et al., 2017). In practice it requires a form of delegating authority from a public institution, such as a local, regional, or national government or parliament, to a co-creation initiative.

2. Discover and frame the shared problem

Once convened, the multi-stakeholder coalition collectively defines the problem. This involves mapping how the system operates through participatory appraisals, city scans, service blueprints, group model building, causal-loop diagrams, and citizen science (Smith et al., 2024; Trischler & Charles, 2019; Zafra-Calvo et al., 2020). Boundary objects, such as urban metabolism models, help create a shared reference point (Newell et al., 2019). The

objective is to make complex systems visible and actionable for policy (Szarek-Iwaniuk & Senetra, 2020). This step includes elements such as the gathering of information and learning through studying and fact finding.

3. *Envision, prioritise and resolve conflicts*

The next step is to develop a shared vision and prioritise actions. This may involve foresight processes that start with citizen visions, progress through expert scenarios, and iteratively integrate feedback from both (Gudowsky & Peissl, 2016). For instance, in their transdisciplinary foresight approach, Gudowsky and Peissl (2016) emphasise that “the applied method is reflexive and multi-modular, combining several inter- and transdisciplinary workshops and knowledge-management phases in a co-creative foresight process” (p. 4). In practice, visioning workshops, back-casting, and deliberative mini-publics help translate possibilities into an agreed agenda (Nevens et al., 2013; Kythreotis et al., 2019).

This step also involves resolving conflicts. Research on multilevel governance has pointed out that conflict resolution in networks of multiple actors requires deliberation and bargaining¹¹ (Benz 2000; Peters and Pierre, 2004). According to research on collaborative governance solutions through complex problems might require win-win negotiations (Ansell and Gash 2008). This implies for the context of co-creation that participating actors negotiate about elements of their vision as well as the priorities when it comes to putting them into specific policy projects, in a way that ensures wins for both sides. Alternatively, conflicts might also be resolved if a group amongst participating actors has a lot of discursive power and is therefore able to generate consent to their ideas (Ansell et al., 2025).

In an ideal case, the outcome is a coherent set of priorities that balance ambition with institutional feasibility. Nevertheless, if conflicts prevail, co-creation might fail at this point.

4. *Co-design solutions*

With priorities established, attention turns to solution design. This stage combines structured deliberation with iterative making (Ansell et al., 2024). Approaches include Experience-Based Co-Design, design sprints, facilitated workshops, and co-design processes within living or transition labs (Donetto et al., 2015; Voytenko et al., 2016; Menny et al., 2018). Digital platforms can capture ideas, host discussions, and enable ranking or voting (Lee-Geiller & Lee, 2019; Linders, 2012; John & Supramaniam, 2024; Torfing et al., 2021). The emphasis is on combining dialogue with hands-on design to refine solutions

¹¹ Conflicts may also be addressed through unilateral measures, such as resolution by supreme court rulings or the enactment of new (federal) legislation.

collaboratively. Again, this stage might need measures to resolve conflicts between participating actors as mentioned in the previous step.

5. *Test and experiment*

Designs are tested in real-world settings to assess feasibility and gather feedback. Urban Living Labs, pop-up pilots, serious games, and adaptive experiments allow for multiple small-scale trials to run in parallel (Voytenko et al., 2016; Leino & Puumala, 2021; Jean et al., 2018; Torfing et al., 2024; Cousins, 2021; West et al., 2019). This portfolio approach minimises risk, generates learning, and makes success visible, enabling informed decisions about scaling (Mikkelsen & Røiseland, 2024; Scognamiglio et al., 2023).

6. *Deliver and govern*

Successful concepts are moved into delivery through governance and implementation arrangements that preserve collaboration. This may include partnering contracts, PPPs, special-purpose vehicles, co-management boards, and sectoral standards developed through dialogue (Eriksson et al., 2017; Wang & Ran, 2025; Zhang et al., 2023; Vellema & Van Wijk, 2015; Sherriff et al., 2019; Sørensen et al., 2021). These mechanisms align incentives, share risk, and ensure continued stakeholder involvement during implementation. Again, this step may entail the need to resolve conflicts, because the implementation of programs and services generated through co-creation might trigger new controversies, even if they are unrelated to the actual co-creation process (Sager and Hinterleitner 2022). This is especially the case if a policy co-created at one level is then implemented by another level, as is the case in administrative federalism (Mueller & Fenna 2022).

7. *Scale, embed, and learn*

The final stage involves replicating, institutionalising, and improving successful initiatives. Scaling may progress from pilots to broader organisational or jurisdictional adoption, supported by tactics such as modularisation, bounded autonomy, or cross-sector coalitions (Røiseland et al., 2024a; Conteh & Harding, 2023; Hofstad et al., 2023; Chambers et al., 2021; Mikkelsen & Røiseland, 2024). Continuous monitoring and adaptation ensure that co-creation becomes an embedded organisational practice rather than a one-off project (Clark et al., 2016b; Ansell et al., 2024).

It should be noted that these stages may not appear in all co-creation initiatives. Likewise, they are not strictly sequential, but they often overlap, intersect, and repeat in iterative cycles of learning and adaptation (West et al., 2019; Ansell et al., 2024). A recurring theme in the literature is that co-creation is inherently context-dependent and iterative: different tools are combined and sequenced to match local conditions, digital platforms are

reinforced through inclusive offline engagement and robust data stewardship, and scaling depends on strong authorising environments and adaptive governance arrangements.

6.2 What challenges and obstacles are identified?

In addition to its documented risks and benefits, the literature also highlights important limitations and obstacles that can hinder effective co-creation practice. Co-creation faces a broad spectrum of challenges that span from the earliest stages of stakeholder engagement to the institutionalisation and scaling of outputs (Acar et al., 2025; Voorberg et al., 2015). The wide-ranging challenges associated with co-creation can be synthesised into seven overarching domains, each representing a distinct dimension of barriers that impede participatory co-creation processes, as presented in Table 11 (Voorberg et al., 2015; Acar et al., 2025; Torfing et al., 2021).

1. *Institutional and political barriers*

Co-creation is profoundly shaped by the institutional and political environment within which it unfolds. Entrenched institutional inertia, siloed accountability, short political cycles, and leadership reluctance to share authority frequently limit the scope and impact of co-creation (Torfing et al., 2021; Conteh & Harding, 2023; Merickova et al., 2015; Sørensen et al., 2021; Van Gestel et al., 2023). These obstacles are rooted in risk-averse administrative cultures, path-dependent routines, New Public Management logics, and restrictive legal frameworks (Haustein & Lorson, 2023; Røiseland et al., 2024b; Torfing et al., 2021; Ferraris et al., 2020; Alves, 2013).

Political dynamics, professional role resistance, and persistent power imbalances or unmanaged conflict further complicate co-creation efforts (Ziervogel et al., 2022; Bovaird, 2007; Greenhalgh et al., 2016). Notably, co-creation is inherently at odds with “the political and administrative reluctance to ‘lose control’” (Torfing et al., 2021, p. 20). This means that, in some cases, public authorities may view participatory processes as threatening, while civic partners often operate under conditions of mistrust (Ziervogel et al., 2022; Chambers et al., 2021). For instance, Ziervogel et al. (2022) note that collaborative approaches “often disrupt the status quo and interfere with established procedures, which can feel threatening to authorities” (p. 616). Ansell et al. (2024) highlight a similar concern, arguing that “collaborative involvement of citizens and stakeholders can be criticised for undermining the sovereign political leadership of elected officials or for failing to involve a broad and representative group of actors” (p. 154).

Furthermore, established political and administrative practices usually favour centralised authority and resist genuine power-sharing (Røiseland et al., 2024a; Sørensen et al., 2021; Torfing et al., 2019). In some countries and policy sectors, “considerable resistance and

scepticism” towards co-creation persists, including the belief that public authorities “are perfectly capable of assessing citizen needs” even “without lay-actor involvement” (Røiseland et al., 2024a, p. 18). Meanwhile, in others, “the limited will of local governments to innovate service delivery modes is also connected with a lack of responsibility and accountability” (Merickova et al., 2015, p. 533). It is important to keep in mind that co-creation assumes, to some extent, that bureaucrats are service-oriented and follow routines that encourage them to engage with citizens and to listen to their concerns in a service-oriented manner. This assumption largely reflects the bureaucratic model prevalent in Northern Europe, particularly in Scandinavia. However, the situation is quite different in other regions, such as continental Europe, where administrative systems are more insulated from the population and historically oriented toward rule enforcement rather than shared rule generation with citizens, with the exception of Switzerland (Heidenheimer 1986; Kuhlmann et al. 2025). Furthermore, bureaucracies are often perceived as risk-averse. Public sector employees, in particular, face greater difficulties in taking risks because their activities are subject to heightened scrutiny as they spend taxpayers’ money. As a result, innovative projects are more likely to be perceived as risky and are consequently more vulnerable to failure (Trein and Vagionaki 2024, 589-599).

When combined with unequal capacities, entrenched hierarchies, and misaligned incentives, these conditions can distort participation and stall decision-making if not actively mediated (Greenhalgh et al., 2016; Wamsler et al., 2020; Cousins, 2021). Overall, they limit the scope, continuity, and ambition of co-creation, often resulting in risk-averse, compliance-driven processes that avoid meaningful power-sharing.

2. Capacity and resource constraints

Sustained co-creation depends on adequate resources and capacity on both the government and community sides. Hence, shortages of time, funding, skills, and organisational continuity are recurring barriers (Acar et al., 2025; Mikkelsen & Røiseland, 2024; Smith et al., 2024). Co-creation is inherently resource- and time-intensive, yet political cycles and project timeframes are often short, limiting the depth and continuity of engagement (Acar et al., 2025; Graversgaard et al., 2017). These deficits stem from austerity measures, overstretched staff, and unfunded expectations for voluntary community labour (Van Gestel et al., 2023; Medema et al., 2017; Cvitanovic et al., 2015).

The interplay of short political horizons and limited capacities is visible in practice. For instance, Graversgaard et al. (2017) observe that the tight timeframe for the water councils’ work was perceived as “both limiting and enabling,” noting that “with a fixed timeframe, things get done, but it takes time for participation to institutionalise” (p. 18). At the same time, community groups, NGOs, and under-resourced agencies often lack the skills,

staffing, or organisational continuity necessary for sustained and meaningful participation, particularly “with respect to information acquisition, analysis, and use” (Stephenson et al., 2019, p. 492; Hambleton, 2019).

Role clarity and process know-how are also pivotal for coordination. Unclear allocation of roles and responsibilities among participants, compounded by “lack of role understanding, missing knowledge of collaborative tool use, [and] missing knowledge of co-creative work processes,” further weakens coordination, undermines commitment, and increases the risk of duplication or conflict (Giesbrecht et al., 2017, p. 172). As Leino and Puumala (2021) observe, most local government units “are not designed to work with unclear end-results and vague understanding on who carries the responsibility of a particular process” (p. 794).

Finally, specific expertise and delivery models shape whether participation can be sustained and scaled. Stephenson et al. (2019), in particular, highlight “the lack of social science capacity in advisory or management processes” (p. 492), while Frantzeskaki et al. (2025, p. 3) observe how “co-creation often takes temporary, project-based forms” and requires “different sets of skills and capabilities” to ensure that participatory methods are capable of delivering sustained, meaningful outcomes.

Taken together, these pressures reduce the ability of actors to sustain participation over time, leading to incomplete implementation, reliance on short-term projects, and loss of institutional continuity.

3. *Power, equity, and representation challenges*

Power asymmetries and representation gaps shape who participates, whose knowledge counts, and how legitimacy is constructed in co-creation, while elite capture, exclusion of marginalised groups, entrenched distrust, and the absence of counterweights to dominant interests erode legitimacy (Turnhout et al., 2020; Wamsler et al., 2020; Chambers et al., 2021; Sherriff et al., 2019). These participation barriers are reinforced by awareness and trust dynamics that diminish engagement. Many potential participants are either unaware of engagement opportunities, hold “low estimations of their personal chances to really be heard” (de Jong et al., 2019, p. 492), or recall previous tokenistic processes, all of which diminish willingness to participate and undermine trust-building (de Jong et al., 2019; Voorberg et al., 2017b; Wamsler et al., 2020). Communities with prior experiences of inequitable governance may be especially reluctant to engage, requiring sustained and transparent relationship-building efforts (Bradley & Mahmoud, 2024; Sherriff et al., 2019). A salient example underscores how historical legacies shape present-day participation. For instance, Sherriff et al. (2019) stress considerable difficulties of engaging with Indigenous communities in Australia, “given the history of Aboriginal research” (p. 380). Such research

has too often been characterised by extractive and externally driven practices that overlooked Indigenous community priorities, thereby generating mistrust and undermining legitimacy.

Beyond these proximate barriers lie deeper structural drivers. Such obstacles are linked to structural inequalities, the enduring effects of historical harms, and self-selection biases in participation (Sherriff et al., 2019; Kythreotis et al., 2019; de Jong et al., 2019). As Kythreotis et al. (2019) observe, “making citizens more central within the science-policy process is inevitably constrained by pre-existing uneven power relationships” (p. 5).

Taken together, these dynamics have notable effects on both process quality and outcomes. Such relationships undermine legitimacy, narrow the diversity of perspectives, and weaken the relevance and fairness of co-created outcomes.

4. *Process and design weaknesses*

At the design stage, co-creation depends on clear mandates, structured facilitation, and robust decision-making frameworks. Without these elements in place, it risks becoming superficial, fragmented, and short-lived (Frantzeskaki et al., 2025; Acar et al., 2025; Gudowsky & Peissl, 2016). Conceptual ambiguity further compounds these risks. As Frantzeskaki et al. (2025) observe, “the diverse interpretations and manifestations of co-creation hinder its uptake,” particularly because it “is no ready-made approach but relies on participatory methods that are fit-for-purpose” (p. 3). Timing and purpose are equally consequential for participant input. In many cases, engagement is initiated too late in the decision-making cycle to have a meaningful impact on outcomes, or too frequently without a clear purpose, resulting in participation fatigue (Menny et al., 2018).

Beneath these practical issues lie deeper epistemic and procedural divides between policy and science that challenge translation into action. Hegger et al. (2012) explain that “science and public policy differ in their timeframes, epistemologies, objectives, process-cycles and criteria for judging the quality of knowledge” (p. 52). As a result, disciplinary divides, complexity, and varying validation standards often require dedicated “mechanisms for translating outcomes of deliberative processes into policymaking” (Gudowsky & Peissl, 2016, p. 2) and parallel processes to bridge expert and lay perspectives (Hegger et al., 2012; Karpouzoglou et al., 2016).

In addition, when participatory outputs are not “part of the institutions of parliamentary politics” and poorly connected to statutory or operational processes, ideas generated during engagement often fail to translate into policy change or practical implementation (Gudowsky & Peissl, 2016, p. 4). Political support is therefore pivotal for continuity and protection from veto points. Without it, co-creation initiatives remain vulnerable to delay or

veto by actors resistant to change, as some studies report how certain cases were “blocked by unsupportive high-level actors” (Chambers et al., 2021, p. 989; Van Gestel et al., 2023).

Inclusive design and accessibility are also foundational to process quality. Online platforms, inaccessible venues, the use of overly technical language, and poorly designed facilitation can systematically exclude participants lacking the necessary digital, physical, or linguistic access (Szarek-Iwaniuk & Senetra, 2020; Haustein & Lorson, 2023). For instance, Szarek-Iwaniuk and Senetra (2020) remark that “PPGIS tools require Internet access, which is a certain disadvantage because digitally excluded social groups are prevented from participating in such studies” (p. 8).

Ultimately, recurring procedural pitfalls trace back to how participation is framed and managed. These weaknesses often arise from symbolic participation efforts, insufficient facilitation skills, and absent decision protocols (Gudowsky & Peissl, 2016; Nabatchi et al., 2017). They produce superficial or fragmented engagement that fails to influence decisions, resulting in low impact and participant disengagement.

5. Data, technical, and methodological hurdles

Data-, technical-, and method-related obstacles have structural origins that cascade into day-to-day barriers to knowledge use and policy uptake. These problems are driven by fragmented infrastructures, the absence of common standards, and divergent epistemologies across sectors (Karpouzoglou et al., 2016; Newell et al., 2019; Hegger et al., 2012). In practice, this structural misalignment shows up as routine frictions in collaboration and evidence flow. Institutional silos, privacy and ethics concerns, inconsistent quality assurance, poor usability of tools, and mismatches between scientific and policy timelines hinder effective knowledge integration (Yu et al., 2019; Zhang et al., 2023; Hegger et al., 2012; Karpouzoglou et al., 2016; Newell et al., 2019). Cross-sector data integration is further constrained by “privacy concerns, issues of organisational boundaries, [and] data security” (Zhang et al., 2023, p. 376).

Compounding these challenges are incompatible data standards and mismatches in geographic or thematic scope, which hinder the integration and effective use of diverse evidence sources (Karpouzoglou et al., 2016; Newell et al., 2019; Yu et al., 2019; Hegger et al., 2012). Equity dynamics amplify these technical hurdles by shaping who can access and mobilise information. As Karpouzoglou et al. (2016) note, “information access is not equally divided over the globe” and “knowledge and information are also an object of power struggle” (p. 46).

Taken together, these frictions hinder the integration of evidence into policy, reducing the credibility, timeliness, and usability of co-creation outputs.

6. Governance scale and fit

At its core, this challenge concerns misalignment between authority, scale, and problem geographies. In multi-level governance systems, mismatches between different levels of government and scales of governance often result in decision-making authority failing to align with where problems manifest, while sectoral logics can further constrain integration (Homsy et al., 2019; Armitage et al., 2012). In the domain of environmental governance, for instance, “jurisdictional mismatch of authority and responsibility across levels of government hinders environmental protection efforts by wasting resources, hampering innovation, and reducing regulatory effectiveness” (Homsy et al., 2019, p. 578).

Beyond these misalignments, institutional fragmentation and path-dependence further limit coherence and opportunities for innovation. Fragmented governance structures, both vertically and horizontally, impede coordination, scaling, and integrated solutions (Yu et al., 2019; Leino & Puumala, 2021; Conteh & Harding, 2023) while novel approaches are frequently blocked in favour of maintaining established procedures (Torfing et al., 2021; Ferraris et al., 2020). For instance, Leino and Puumala (2021) highlight administrative fragmentation as a persistent constraint, noting how “the city administration was divided into silos that hindered the development of existing policies and practices” (p. 789). In the digital governance context, fragmented institutional arrangements mean that a “sector-centric government [causes] the fragmented data and the existence of numerous apps from different sectors” (Yu et al., 2019, p. 175), undermining integration in smart city initiatives. Ferraris et al. (2020) emphasise that these barriers are reinforced by a “lack of rules,” “weak interdepartmental coordination and communication,” and the fact that “public governments are subject to multiple external authorities and have more internal bureaucracy” (p. 1259, p. 1263). In addition, Torfing et al. (2021, p. 14) point to “strong path-dependencies based on institutional inertia and positive feedback loops [that] work to preserve the status quo,” making structural change difficult.

In sum, scale–authority mismatches arise from inconsistent legal authority and rigid sectoral and jurisdictional boundaries (Homsy et al., 2019; Conteh & Harding, 2023). They create gaps between where decisions are made and where problems occur, impeding coordination, scaling, and coherent policy action.

7. Market and regulatory environment

In the market and regulatory domain, enabling conditions and incentive structures shape whether co-creation creates public value or drifts towards private capture. Weak regulatory oversight, over-commercialisation of participatory spaces, and problematic user behaviour can undermine co-creation initiatives (Ma et al., 2019; Cousins, 2021; Vellema & Van Wijk,

2015). These risks arise from incentive misalignments and inadequate stewardship structures (Eriksson et al., 2017; Finsterwalder & Kuppelwieser, 2020). As Eriksson et al. (2017) note, in project partnerships, “co-creation practices will clearly suffer” due to “tensions between the need for the development of trust and the commercial realities” (pp. 30–31).

At the system level, gaps in rules, infrastructure, and roles often prevent promising initiatives from taking root. The absence of enabling policies, dedicated physical or institutional spaces, clear stewardship arrangements, and procedural guidance can stall otherwise promising initiatives (Ferraris et al., 2020; Ma et al., 2019). For instance, Ferraris et al. (2020) report “non-flexible public procurement rules, lack of resources, [and] lack of technological capabilities” (p. 1259) as significant barriers in smart city co-creation initiatives. In parallel, formal frameworks can inadvertently entrench exclusion.

Moreover, regulatory, compliance, and certification frameworks that fail to account for local conditions can further marginalise informal or community-based actors, limiting their ability to participate meaningfully (Vellema & Van Wijk, 2015; Armitage et al., 2012). Market logics and over-reliance on business-led and data-driven models can also sideline community priorities (Fratini et al., 2019; Peñaloza & Mish, 2011), while inadequate or overly complex funding arrangements limit the capacity of communities and smaller organisations to engage effectively (Zafra-Calvo et al., 2020; Conteh & Harding, 2023).

Taken together, these forces push co-creation practice away from inclusivity and long-term value creation. They result in tensions that are distorting co-creation towards commercial or dominant-actor interests, weakening public value and long-term sustainability.

Overall, the literature suggests that co-creation suffers less due to a lack of willingness to collaborate, and more because of deeply embedded institutional arrangements, incentive structures, and coordination failures that limit momentum and diminish the translation of citizen input into tangible outcomes (Torfing et al., 2021, 2024; Voorberg et al., 2017a; Conteh & Harding, 2023; Greenhalgh et al., 2016). Particularly, in complex, multi-actor environments, such challenges are compounded by entrenched “power structures” (Wamsler et al., 2020, p. 235) as well as “structural complexity and multiple competing interests” (Greenhalgh et al., 2016, p. 419), helping to explain why both momentum and effective policy translation so frequently falter.

Table 11. Principal challenge domains in co-creation literature

Challenge domain	Description	Main causes	Consequences for co-creation
1. Institutional and political barriers	Hierarchy, silos, short cycles, and limited delegation constrain co-creation scope.	Risk-averse cultures, path-dependent routines, New Public Management incentives, restrictive legal frameworks, and leadership reluctance to share authority.	Tokenistic engagement, stalled decisions, poor uptake of results, and low durability beyond pilots.
2. Capacity and resource constraints	Insufficient time, funding, skills, and continuity in governments and communities.	Austerity, staff overload, unfunded expectations for volunteer labour, and fragmented support.	Participation fatigue, uneven quality, fragmented project delivery, and exclusion of under-resourced actors.
3. Power, equity, and representation	Unequal voice and weak counterweights distort who participates and who benefits.	Structural inequalities, historical harms, self-selection bias, lack of targeted outreach, and weak safeguards.	Legitimacy deficits, elite capture, mistrust, conflict, and biased outcomes.
4. Process and design weaknesses	Unclear mandates, poor facilitation, and opaque decision paths reduce impact.	Fragmentation of engagement processes and decision pathways, absent decision protocols, limited practitioner skills, and unclear governance of forums.	Slow or lowest-common-denominator outputs, agreement without delivery, and symbolic participation.
5. Data, technical, and methodological hurdles	Evidence is hard to combine and trust across actors and systems.	Institutional silos, incompatible standards, privacy/ethics concerns, poor tool usability, and divergent timelines and epistemologies.	Low credibility or unusable data, stalled learning, and weak policy translation.
6. Governance scale and fit	Authority, resources, and problem geographies do not align.	Jurisdictional mismatches, rigid sectoral boundaries, and unclear multi-level roles.	Avoidance of accountability, overlapping activities,

Challenge domain	Description	Main causes	Consequences for co-creation
			scaling failures, and policy collisions.
7. Market and regulatory environment	Commercial logics and weak oversight undermine public value.	Misaligned incentives, over-commercialised platforms, insufficient stewardship, and user externalities.	Exclusion, monopolisation, and misuse of shared assets, public backlash, and erosion of trust.

6.3 How are co-creation outcomes evaluated?

Across the analysed literature, the evaluation of co-creation processes remains significantly underdeveloped and weakly embedded in practice (Voorberg et al., 2015; Turnhout et al., 2020; Voytenko et al., 2016; Alves, 2013). In the context of co-creating nature-based solutions (NBS), for example, Dushkova and Haase (2020) note that “the scientific community still experiences a lack of tools or methods to describe the positive effects of NBS,” and that “in most of the NBS projects, the long-term monitoring of the impact of NBSs is not foreseen” (p. 20). While many studies acknowledge the importance of measuring outcomes, only a minority focus on monitoring and long-term effects or integrate evaluation systematically into co-creation models, like through structured public health cycles with measured impacts or portfolio roadmaps with milestones and annual reporting (Casais & Monteiro, 2019; Dushkova & Haase, 2020). More commonly, evaluation is ad hoc (Menny et al., 2018; Ziervogel, 2019; Regal et al., 2024). Comparative methods appear sporadically, while justice is more often referenced than operationalised in practice (Zafra-Calvo et al., 2020; Cousins, 2021). Similarly, digital co-creation formats are typically assessed only through surface analytics (e.g., likes, comments, shares), which measure reach but not public value (Bonsón et al., 2015; Zhang et al., 2023).

Where evaluation occurs, it predominantly focuses on the process of collaboration itself rather than long-term outcomes¹², such as in the case of serious gaming sessions where “collaborative experiences have been assessed during and after each serious game simulation event through surveys” (Jean et al., 2018, p. 1011). Standard approaches include post-event surveys and interaction analysis, while social network analysis to monitor how relationships evolve during workshops is much less common (Karpouzoglou et al., 2016;

¹² This is likely because isolating the specific effects of co-creation, and particularly its long-term impacts, is methodologically challenging.

Jean et al., 2018). These methods illuminate collaboration quality and interaction patterns and give valuable insight into how co-creation works in practice, but they reveal little about downstream outcomes or societal impacts. Some projects evaluate direct outputs such as agreements, prototypes, redesigned services, or new governance structures, treating these products as early indicators of effectiveness and using them to develop “a picture of good implementation” (Greenhalgh et al., 2016, p. 7; Merickova et al., 2015; Hegger et al., 2012). For example, Clark et al. (2016) evaluate the effectiveness and uptake of co-created knowledge, focusing primarily on whether shared knowledge is successfully generated and embedded in policy (e.g., through reports, policy briefs). While counting and cataloguing such artefacts can signal early traction, without evidence of adoption or performance, output measures risk drifting toward box-ticking. As one water-planning study cautions, “output can be evaluated immediately after the participation process,” however, “it is important to not only measure output but also to analyse the outcome” (Graversgaard et al., 2017, p. 7).

As the surveyed scholarship only tangentially focuses on substantive policies, there is no proper study of the effectiveness (problem-solving) or legitimacy (acceptance) of policy measures. This is also to some extent consistent with the findings of Voorberg et al. (2015), who write in their systematic review of co-creation literature that “only a handful of authors did describe specific outcomes as a result of co-creation/co-production processes (20 per cent)”, adding that “if concrete outcomes are reported, they mostly refer to an increase (or decrease) in effectiveness” (p. 1345). For instance, co-creation initiatives sometimes assess direct service outcomes through before-and-after comparisons of administrative or user data, e.g., hospitalisation levels and patient satisfaction rates in health settings, uptake of redesigned digital services, or improvements in transport prediction (Gudowsky & Peissl, 2016; Sørensen et al., 2021; Zhang et al., 2023; Ma et al., 2019). Yet, “very few projects have evaluated and documented the outcomes of knowledge exchange processes” (Cvitanovic et al., 2015, p. 32).

While before-and-after designs can connect evaluation to operational realities, their short timeframes and weak counterfactuals often limit causal claims. Behavioural change is measured less frequently and remains constrained to similar evaluation designs, for example, modal shifts in mobility projects, such as reduced car journeys, increased cycling and walking, or expanded EV-sharing schemes. Ma et al. (2019) report that “in the year of 2016, the total number of car journeys, in the 50 cities where Mobike operates, fell by 3% since the bike sharing programs were launched” (p. 1154). Such findings suggest that co-created mobility innovations, when deployed at scale, can influence urban transport behaviours. However, observed changes may also reflect external factors such as pricing, seasonality, or concurrent initiatives. Programme KPIs, platform logs, and mobility counts

can evidence citizen-level effects, although observed behaviours may also reflect external influences such as pricing, seasonality, or concurrent initiatives.

A smaller set of studies considers policy and institutional effects, tracing shifts in frames and rules through interviews, expert panels, and document analysis, or noting when the stakeholders' agency increases and when communities secure decision-making legitimacy by getting "a seat at the table" (Giesbrecht et al., 2017, p. 614; Xie et al., 2016; Voorberg et al., 2017b; Ziervogel et al., 2022). As one case documents, "there were numerous shifts in the activists' sense of personal agency, collective legitimacy, and relational capacity" (Giesbrecht et al., 2017, p. 614). Although these approaches capture not only service adjustments but also governance change, quantification remains difficult and attribution is frequently contested.

Efforts to assess wellbeing outcomes are also present. Wellbeing outcomes concern "the realised and experienced value by the actor which results from co-creative activities" (Karnøe & Garud, 2012, p. 2). They range from subjective wellbeing measures to individual health scores and environmental and economic outcomes such as renewable energy production, employment, income, or nature conservation gains (Finsterwalder & Kuppelwieser, 2020; Osborne et al., 2016; Clark et al., 2016a).

Equity and justice considerations are widely recognised but rarely measured empirically, with only limited attempts to assess the distribution of benefits and burdens (Cousins, 2021; Lennon et al., 2019; Zafra-Calvo et al., 2020; Voorberg et al., 2015). Equity rubrics and participation/empowerment scoring can foreground fairness and legitimacy, yet they are seldom embedded as required metrics within evaluation frameworks.

Lastly, some initiatives evaluate learning, capability-building, and transformative potentials through repeated surveys, mapping cognitive shifts, or scoring projects against rubrics on depth of change, sustainability of innovations, and societal alignment (Chambers et al., 2021; Graversgaard et al., 2017; Puerari et al., 2018). For instance, "one case examined people's cognitive maps, perception of agency and social networks at multiple stages during the process to facilitate and document the changes occurring" (Chambers et al., 2021, p. 992). Repeated surveys, cognitive map analysis, social network analysis, and cross-case clustering can demonstrate capacity building, diffusion, and relational change. However, data quality is uneven, and these measures often sit at the margins of projects. Qualitative "transformative potential" scoring makes strategic ambition explicit, yet relies on subjective judgements and is rarely validated longitudinally.

Taken together, the literature presents a fragmented picture of evaluating co-creation:

- Relatively strong evaluation of process quality and immediate outputs.

- Outcome and behavioural assessments are surface-level.
- Policy and transformation impacts are assessed unevenly.
- Equity and long-term value remain underdeveloped.

This highlights the need for more systematic and multi-dimensional evaluation frameworks to ensure co-creation delivers demonstrable and equitable public value. Table 12 summarises these findings.

Table 12. Evaluation dimensions of co-creation with strengths and gaps

Evaluation focus	What gets measured	Methods	Strengths	Gaps
Process/ experience of collaboration	Perceived collaboration quality, interaction patterns	Post-event surveys, video/interaction analysis, facilitation reflections	Insight into “how” co-creation works	Tells little about longer-term outcomes/ impacts
Outputs	Tangible artefacts produced	Counts/lists of plans, agreements, prototypes, maps, redesigned services, new committees	Early signal of traction	Output does not equal outcome, risk of box-ticking
Outcomes and service performance	Changes in service use, quality, efficiency	Before/after user data, satisfaction scores, portfolio breadth	Moves beyond process, connects to operations	Often short timeframes, weak counterfactuals
Behavioural change	Modal shift, usage patterns, participation	Mobility counts, platform logs, programme KPIs	Concrete citizen-level effects	Behaviour may be influenced by external factors
Policy and institutional change	Shifts in frames, rules, roles, legitimacy	Document analysis, interviews, expert panels	Captures governance effects, not just service changes	Hard to quantify, attribution contested
Wellbeing and public value	Subjective wellbeing, environmental/economic value	Sector indicators (energy output, employment, income, forest	Links co-creation to	Mixed measures, comparability issues

Evaluation focus	What gets measured	Methods	Strengths	Gaps
		conservation), cost-effectiveness	value in context	
Justice and equity	Who benefits/ who bears costs, empowerment	Equity rubrics, participation/ empowerment scoring	Emphasises fairness, legitimacy	Frequently called for but rarely measured rigorously
Learning and capability	Cognitive frames, agency, network growth, diffusion	Repeated surveys, cognitive-map shifts, Social Network Analysis, cross-case clustering	Shows capacity building and relational change	Often adjunct to projects, uneven data quality
Transformation potential	Depth of change, alignment to societal challenges, innovation	Qualitative rubrics, “transformative potential” tables	Makes strategic ambition explicit	Subjective scoring, few longitudinal validations
Monitoring and long-term impact	Persistence, spillovers, ecosystem effects	Long-term indicators, follow-up studies	Recognises need for durability	Short time frames, no standardized tools, limited comparison

7. Co-creation and MLG

This section turns to the link between co-creation and multi-level governance. First, the chapter presents a definition of multilevel governance (MLG). Then it turns to an analysis of the results of the review regarding the link between MLG and co-creation, focusing on the presence of co-creation on different levels of government. Finally, we examine how co-creation can contribute to MLG as a policy process.

7.1 Conceptual background

The term *multilevel governance (MLG)* was initially coined in scholarly research on European integration. Observers realized the need for a new concept to reflect the evolving nature of decision-making in the EU context in the early 1990s. This change stemmed from the increasing number of authoritative actors operating across multiple scales of governance (Marks, 1993, 392). In the following decades the term became very prominent in research on European integration, international relations, comparative politics as well as public policy. In a seminal book, the author defines MLG as follows:

“Multilevel governance (MLG) is a rather popular term, widely used by students of European integration and international relations (IR) as well as by commentators and practitioners. *It evokes the idea of increasingly complex arrangements for arriving at authoritative decisions in increasingly dense networks of public and private, individual and collective actors.* In particular, it is deemed to capture important features of how binding decisions are arrived at in the EU. Yet, MLG is not just a convenient description of political mobilization leading to European policy-making, it also points to fundamental changes in contemporary rule. As such, it suggests that structural transformations are taking place in contemporary European states under the impact of the process of European integration. Finally, MLG prompts reconsideration of what constitutes legitimate rule (in both state and non-state contexts), and therefore invites normative reflection on the conditions under which binding decisions gain widespread acceptance and bestow legitimacy on the institutions that produce them” (Piattoni, 2010, 1; emphasis added).

Decision-making within multilevel governance often involves negotiation among governmental and non-governmental actors located at multiple scales and jointly trying to reach agreements on how to design and coordinate public policies (Benz 2024). Proponents argue that such decision-making is legitimate because it contributes to solving shared problems (Scharpf 1997; Benz 2024). As policy outputs result from elite bargaining involving government actors from different countries and levels as well as a few privileged stakeholder organizations, input legitimacy is often limited and accountability is undermined by the often

informal character of the process and the lack transparency (Benz 2024; Hooghe and Marks 2009; Papadopoulos 2014).

During its evolution in the last 30 years, the MLG has been employed in two distinct ways in the literature. On the one hand, it is used to signal the transformation of the nation-state, pointing to an erosion of national authority and traditional forms of state-level representative democracy. On the other hand, it denotes specific policy processes in which decision-making avenues have multiplied, thereby expanding the range of actors and government levels involved in policymaking (Tortola 2017; Trein 2022). Moreover, the use of the concept differs depending on whether the research emphasizes rather the “multilevel” or the “governance” aspect. In both cases the focus is on collaborative forms of policy-making, but in the first case emphasis is on collaboration across an increasing number of formal jurisdictional levels (nowadays the local, regional, national, European and transnational one: see Schakel & Tatham 2025). In the second case, especially the implementation of policy is associated with collaborations across the public-private divide, also involving actors such as interest groups, firms and experts.

Hooghe and Marks (2001, xi) define MLG as “the dispersion of authoritative decision making across multiple territorial levels”. More recent definitions move away from this rather formalistic approach and take the combination of “multilevelness” with “governance” seriously into account. In summary chapter, Trein (2022, 64-65) points out that, MLG “entails, on the one hand, a complex structure that links levels of government in general-purpose as well as task-specific jurisdictions. It also combines the presence of state actors, especially governments and bureaucracies but also parliaments, as well as non-state actors, such as private organizations, that self-regulate and organize specific policy problems”. This has now become the dominant view on MLG: according to a recent systematic review of the literature based on 590 publications from between 1993 and 2018, most of the 110 articles that the authors coded as conceptual also consider non-public actors (Papadopoulos, Tortola & Geyer, 2024, 21). Their inclusion takes MLG research further from more institutional research on intergovernmental relations, especially within federalist political systems, as suggested by Benz (2019, 392): “The inclusion of private actors has been said to distinguish MLG from the traditional concept of ‘intergovernmental relations’ among executives, and should imply a broader perspective on actors and structures”. These definitions imply that multilevel governance is well suited for co-creation (Alcantara & Nelles 2014; Alcantara et al. 2016).

However, moving from “government” to “governance” with its various multi-actor configurations risks increasing the risk that MLG becomes “an umbrella under which many disparate phenomena are subsumed, to the point that it may lose all denotative precision

and become ‘over-stretched’” (Piattoni, 2010, 2). Indeed, the “governance” aspect in MLG is more difficult to define than the “multilevel” aspect. The latter aspect is quite straightforward: it is about different forms of shared decision-making involving distinct official jurisdictional levels and conflict and cooperation between them in a very broad sense (Mueller 2024). Things are less clear when it comes to the governance dimension: which non-public actors are relevant, and in what kind of role? For instance, should we consider individual experts as relevant when they are asked to provide advice to decision-makers, or is this stretching the concept too far?

We believe that employing the literature on “co-creation” can contribute to conceptual precision, as the “governance” aspect closely relates MLG to processes of co-creation. However, the literatures on MLG and on co-creation have largely developed in silos so far. As a first step in the direction of cross-fertilization, we first survey how MLG is treated in the “co-creation” literature, before formulating some propositions on *what co-creation can be expected to contribute to MLG*, especially in the context of the twin transition.

7.2 Co-creation within MLG

7.2.1 Government levels involved

An analysis of governance scales at which co-creation processes are discussed reveals a strong dominance of the **local level**, featured in 93 papers (84% of the sample), **as shown in Table 13**. This focus primarily concerns cities and urban neighbourhoods, reflecting the scale at which citizen engagement through workshops, deliberative forums, and similar participatory methods is both practical and meaningful. The local level is also the most frequently addressed independently, without reference to other scales (30 papers, 27%), whereas all other scales combined are treated independently in only four instances.

The **national level** is the second most frequently addressed scale, appearing in nearly half of the papers (48%). However, references to the national scale often appear in conceptual or general discussions concerning the organisation and delivery of public services, such as the transition to e-government, rather than direct accounts of co-creation practices at the national level. The national scale is, therefore, typically framed in regulatory or institutional terms rather than as an arena for active co-creation (Lee-Geiller & Lee, 2019).

The **subnational level**, including regions defined both formally (e.g., metropolitan areas) and informally (e.g., watersheds), is covered in slightly over 30% of analysed papers. However, this scale is rarely addressed in isolation and appears primarily in relation to co-creation processes anchored at the local level, where regional institutions and agencies participate in local initiatives.

The **transnational and global scales** are referenced in 16% of analysed papers, typically in relation to international agreements, organisations, and networks that provide frameworks for co-creation but only occasionally participate directly in such initiatives at national or subnational/local levels. Similarly, the **supranational level**, particularly the European Union, is the least frequently discussed (7 papers, 6% of the sample) and generally appears in the context of regulatory frameworks that enable or constrain co-creation, rather than as a site of operational co-creation or direct participation by supranational actors.

Multi-level governance considerations are relatively common, with 68 papers (61%) referencing interactions across scales. These references primarily involve the integration of local and national levels (22 papers, 20%) and local and subnational levels (14 papers, 13%). More complex vertical linkages, such as connections between local, subnational, and national scales (10 papers), or those involving supranational or global scales (8 papers), are less common. Even when multi-level linkages are acknowledged, co-creation activities remain largely confined to national contexts, and, particularly, to local-level initiatives. References to multi-level governance are often general, and very few papers analyse these dynamics (such as multi-level collaboration) in depth. This suggests a limited integration between the two bodies of literature, at least from the perspective of co-creation scholarship.

Table 13. Frequency of governance scales in the analysed dataset (n=111)

Scale	Number of Papers	Frequency
Local	93	83.8%
National	53	47.7%
Subnational	35	31.5%
Transnational or global	18	16.2%
Not specified	9	8.1%
Supranational (EU)	7	6.3%

7.2.2 Non-state actors in MLG co-creation

When it comes to co-creation within multi-level governance, different actors perform distinct roles across governance levels, with mandates, resources, knowledge, and implementation responsibilities distributed and interconnected through multiple governance arrangements. Overall, national and transnational bodies typically act as

mandating and funding authorities, while local and regional actors contribute contextual knowledge and on-the-ground experimentation (Conteh & Harding, 2023; Cash et al., 2006; Clark et al., 2016b; Nevens et al., 2013). National and international institutions establish overarching goals and allocate resources, often through frameworks tied to sustainability, digital transformation, or innovation policy (Ferraris et al., 2020; Clark et al., 2016b). Local actors, in turn, feed experiential and empirical knowledge upward, such as through citizen science initiatives, Indigenous knowledge systems, and pilot programmes that test new governance and service models (Tengö et al., 2017; Njue et al., 2019; Latulippe & Klenk, 2020).

Global and transnational agendas, regulations, standards, certification schemes, and market regulations serve as important mechanisms for translating global objectives into enforceable rules that influence local practices (Vellema & Van Wijk, 2015; Clark et al., 2016a). For example, transnational certification regimes, as well as the procurement practices and investment decisions of large retail firms, can shape sustainability norms across supply chains and territories (Vellema & Van Wijk, 2015). A similar dynamic is evident in the European Union, where policy frameworks are adapted and implemented at the local level. One illustrative case is the adoption of the circular economy agenda in Paris, a concept strongly promoted in EU policy, which was “co-produced with the involvement of a large variety of both public and private actors engaged in elaborate participatory processes, facilitated by the public authorities, who are in charge of policy interventions and the provision of financial support” (Fratini et al., 2019, p. 979).

Bridging organisations at intermediate levels (subnational and regional), such as watershed councils, living lab networks, metropolitan authorities, and boundary-spanning NGOs, play an important role in bringing together different governance levels (Casais & Monteiro, 2019; Ribeiro et al., 2019; Cvitanovic et al., 2015; Nevens et al., 2013). They ensure methodological coherence, stakeholder representation, and two-way translation of knowledge and policy priorities across institutional and geographic scales (Clark et al., 2016a; Hegger et al., 2012; Casais & Monteiro, 2019; Cvitanovic et al., 2015). For instance, at the metropolitan scale, “governance permits public bodies, private enterprises, and civil-society organisations to engage in dynamic dialogues, problem solving, and resource pooling” both across levels of government and between municipal jurisdictions (Chen & Kamarudin, 2024, p. 4).

Digital platforms further facilitate vertical integration (Kirimtat et al., 2020). National e-government portals and local tech tools create channels through which citizen-generated data flows upward, while policies, resources, and regulatory frameworks are disseminated downward (Lee-Geiller & Lee, 2019). At the local level, collaborative governance emerges through the interplay of platform design choices by firms and regulatory decisions by

governments, jointly shaping how services are accessed, how users behave, and how public outcomes are achieved (Ma et al., 2019; Vargas et al., 2022; Linders, 2012).

Overall, the local level is where co-creation is most tangible and operationalised (Ege et al., 2025; Voytenko et al., 2016; Nevens et al., 2013). At this level, co-design merges with co-delivery, and the proximity between authority and implementation allows for responsive, adaptive, and citizen-driven service innovation (de Jong et al., 2019; Leino & Puumala, 2021; Voorberg et al., 2015). It is the primary site of interaction between public institutions and residents, and the focal point of democratic experimentation (Hofstad et al., 2023; Hambleton, 2019; Voytenko et al., 2016).

The specific roles of different actor groups across governance scales are presented in Table 14. Where roles are not indicated, this reflects their absence in the analysed literature rather than a lack of involvement of respective actors in co-creation in practice. However, given that these omissions primarily concern political actors and actors operating at transnational or global levels, they are consistent with our broader finding that these actors and governance scales receive limited attention in the co-creation literature.

Table 14. Actor roles in co-creation across different governance scales

Actor	Local	Regional	National	Transnational	Global
Public sector (public administration)	Initiates and convenes co-creation (e.g., living labs, councils, workshops), issues permits, provides land/data/platforms, chairs local councils, and often co-decides/implements.	Regional bodies (e.g., provinces, water boards) co-fund and implement (e.g., climate adaptation), set regional frameworks, broker across municipalities, and host bridging organisations.	Sets national frameworks, funds/steers programmes, licenses/permits/regulates, runs digital transformation and e-governance platforms, and hosts research infrastructures.	Inter-governmental platforms set global priorities and enable participatory knowledge processes for member states.	Acts mainly via treaties/platforms, which domestic agencies then transpose into national/regional rules.
Political actors (elected officials)	Mayors/councillors set mandates and steer initiatives, share decision power, and legitimise processes.	Regional leaders align policies and sit on boards/councils.	Ministers and national leaders authorise programmes, open or close legal space, and set national agendas.	N/A	N/A
Citizens/communities	Co-design and co-decide (e.g., urban living labs, citizen assemblies), supply local/Indigenous knowledge, co-implement/steward (e.g., community gardens), and co-regulate platforms (e.g., bike/car-share behaviour ratings).	Act as representatives on regional councils (e.g., watershed councils) and supply knowledge (e.g., catchment knowledge).	Act as data providers to national systems (e.g., citizen science, service feedback), and as ultimate beneficiaries (sometimes with limited direct participation).	Participate through Indigenous/local knowledge invited into inter-governmental assessments and transnational projects.	N/A

Actor	Local	Regional	National	Transnational	Global
NGOs/ interest groups	Act as partners and advocates, manage local (green) infrastructure, mobilise volunteers, mediate conflicts, and sit on councils.	Regional environmental NGOs advocate and negotiate measures while sector associations contribute expertise.	Boundary organisations broker between national science and policy while national associations partner in service redesign.	Transnational networks confer legitimacy, broker standards, lobby, and convene supply-chain dialogues.	Run global campaigns and align multi-country initiatives.
Private firms	Local contractors/developers deliver works, pilot smart-city tech, sponsor projects, operate platforms.	Utility companies and industry operators are affected stakeholders and implementation partners for regional measures.	Partner with government on national priorities (e.g., diagnostics/logistics during crises), implement at scale, and provide IoT/cloud for platforms.	Retail lead-firms and certification coalitions set/finance standards across borders while supply-chain actors negotiate trade-offs.	Commit resources and change corporate practice globally, join stewardship dialogues, influence benefit distribution.
Experts/ researchers	Universities/consultancies design and facilitate labs and workshops, evaluate outcomes, and broker knowledge across actors.	Regional universities/institutes co-produce knowledge, perform cost-effectiveness analyses, and moderate regional labs.	Generate and translate evidence for national policy, lead consortia, evaluate programmes, and advise ministries/agencies.	Contribute to global assessments, methods, and boundary-spanning knowledge synthesis while living-lab networks share methodologies.	Form global knowledge communities that set best practices and metrics adopted worldwide.

7.3 Implications of co-creation for MLG as a policy process in the twin transition

In this subsection of the report, we discuss some implications of co-creation for MLG. Based on the deep review of the co-creation literature and the conceptual background of multilevel governance, it is possible to argue that co-creation can help mitigate some of the democratic shortcomings commonly associated with MLG, along with enhancing policy performance and legitimacy. We also point out that this might help manage the twin transition.

1. Better, more impactful citizen involvement by public authorities

According to the conceptual background and the existing literature, co-creation is a way to improve the democratization of public governance, notably public administration, which traditionally follows a hierarchical logic. Notably, this process involves co-creation, which strengthens citizen involvement not only in the design of specific public services but also in the broader development of strategic plans and legislation across different levels of government. Improved citizen involvement will make public governance more needs based by getting to the needs behind the demands (e.g., Ansell and Torfing 2021a).

In practice, the empirical literature on co-creation suggests that citizen involvement remains largely practice-oriented. As shown in Table 9 of this report, the literature identifies a variety of instruments that support cooperation. Some of these instruments, such as civic mobilization or deliberative forums, can contribute to the shared development of broader visions. Others, such as experimental labs, knowledge-production workshops, or boundary-spanning organizations, appear to be more narrowly focused on addressing specific problems and designing particular services, and are therefore limited in scope. Notably, it seems that the co-creation tools are targeted to a specific problem, which means that they would end once a specific goal has been achieved.

2. Complementarity to representative democracy

Although one of the risks of co-creation activities is that they may be censored or captured by elites, they nevertheless represent a potentially fruitful avenue for fostering democratic innovations in multilevel contexts. It is important to emphasize that democracy here should not be understood solely in terms of representative institutions, but rather as complementary measures that enhance democratic practice. This point is particularly relevant given that citizens often perceive initiatives such as mini-publics as complementing representative democracy rather than replacing it (Goldberg et al. 2025). Furthermore, Sørensen and Torfing (2019) propose that co-creation can be integrated with representative democracy to form a hybrid in terms of collaborative representative democracy.

The co-creation initiatives reviewed in this report are predominantly found at lower levels of government, especially at the regional and, above all, local level. This implies that they are policy-specific and problem-specific rather than general-purpose. A central challenge of co-creation is its susceptibility to being controlled by local elites. Yet, this may also be seen as an advantage: in multilevel governance, elites—particularly elected officials in the executive—can engage in political entrepreneurship across different levels of government, which is essential for putting into place elements of multilevel democracy. The flexibility of co-creation initiatives—they may take various forms and can be applied to different problems—may therefore become an advantage in efforts to democratize multilevel governance. This chimes with some of the research that has argued that multilevel governance has a democratic potential, under the condition that local elites play a role as boundary-spanners (Benz 2024, 160).

In this context, it is crucial that elites—for example, elected officials or members of the public administration who initiate co-creation processes—take seriously their role as policy entrepreneurs as well as political entrepreneurs. To put it very simply, policy entrepreneurship refers to bringing new ideas to the attention of policymakers whilst political entrepreneurship focuses on activities to forge political coalitions (Herweg et al. 2015; Trein 2022). This means that they need to be able to use co-creation instruments to develop a shared understanding of why they are necessary as well as an ability to generate political buy-in, especially amongst those who are sceptical but not fundamentally opposed.

3. Increasing effectiveness through exchange and alignment of knowledge

A third way in which co-creation can contribute to multilevel governance is by increasing the effectiveness of public policies that are designed and implemented across multiple contexts through the creation of shared knowledge. As we have seen in the report, a central theme in the literature on co-creation is the generation of public value by engaging with diverse groups in society. This may involve listening not only to powerful pressure groups but also to those directly affected by policy initiatives, such as regional communities, service users, and other target groups of public policies (Zafra-Calvo et al., 2020; Lang et al., 2024; Chambers et al., 2021; Tengö et al., 2017). Such engagement helps gather information on how to better deliver public services and adapt them to the needs of users. At the same time, it produces knowledge that is not only practically useful but also socially acceptable (Stephenson et al., 2019; West et al., 2019; Clark et al., 2016b). In a recent publication, the authors coin the concept of social intelligence to analyse these dynamics (Torfing et al. 2025).

This insight is particularly important because multilevel governance frequently requires the coordination of public policies across different tiers of government. In the European context, many policy goals and programs are either designed at the European level or are strongly influenced by European organizations and regulations. In this setting, co-

creation could extend beyond the existing literature on multilevel policy implementation, which emphasizes the need to “customize” European policies to national contexts in order to enhance their effectiveness (Zhelyazkova et al. 2024). If implementation were further complemented by co-creation—understood as meaningful citizen engagement—both effectiveness and legitimacy could be strengthened. At the same time, this raises somewhat of a challenge. Co-creation presupposes deep citizen participation, which in turn requires that citizens perceive their input as being valued not only during implementation but also in the earlier stages of policy design. This, however, creates a tension with the potential top-down nature of policymaking at the European level, which follows a legalistic and bureaucratic logic that limits the room for manoeuvre of citizen participation.

4. Increasing effectiveness through increasing legitimacy

In addition, the involvement of citizens and stakeholders in the design of public services can enhance their acceptability and strengthen legitimacy, which in turns leads to better performance, because individuals use services, e.g., public health services. In this sense, co-creation may contribute to the broader acceptability of multilevel governance from the bottom up, as insights derived from co-creation initiatives help adapt services more effectively to specific contexts and stakeholder needs (Graversgaard et al., 2017; Cvitanovic et al., 2019). Moreover, if applied on a continuous basis, co-creation can contribute to the ongoing improvement of public services by incorporating the lived experiences of users (Nevens et al., 2013; Voytenko et al., 2016; Menny et al., 2018; Puerari et al., 2018). As mentioned above, water governance councils grounded in local knowledge are noted to outperform top-down plans (Armitage et al., 2011; Medema et al., 2017; Jean et al., 2018; Njue et al., 2019). Interestingly, evidence from non-democratic regimes such as China shows that collaborative models reduce disputes, save time and money, and improve delivery (Yu et al., 2019; Ma et al., 2019; Lang et al., 2024).

5. Suitable for the twin transition

The insights from our review also suggest that co-creation may be particularly suitable for governing the twin transition, e.g. a successful transition to a green and digitalised EU economy. This is especially evident in Table 15, which presents the ten most frequently addressed policy fields in the analysed dataset. Of the 111 papers analysed, 60 (54%) examine a single policy field, while 37 (33%) focus on two fields. Only 14 studies (13%) address more than two policy fields. The breakdown of the most frequent policy fields (based on the categories of the [Comparative Agendas Project](#)) is presented in Table 15.

Environmental policy appears as the most prominent policy field discussed in relation to co-creation, featuring in 46 papers (over 41% of the sample). This possibly reflects the general dominance of environmental and climate change studies within the sample. The environment is the second most common field to be addressed independently (16 papers) and one that is most frequently paired with other fields (30 papers, across 12

policy fields), reflecting its cross-cutting policy relevance. The most prevalent pairing is **Environment and Housing/Urban Development** (14 papers), primarily in discussions of urban climate mitigation and adaptation. This is followed by **Environment and Energy** (6 papers) and **Environment and Public Lands** (6 papers), which focus primarily on natural resource management, as well as another recurring pairing: **Environment and Agriculture** (5 papers).

Government Operations ranks second, appearing in 36 papers (32%). Its prominence aligns with the dominant conceptualisation of co-creation as a tool to enhance public service delivery. This field is the most frequently addressed alone (22 papers), mainly in conceptual/theoretical papers. When combined, it most often appears alongside **Technology, Social Welfare, and Health**. Such pairings primarily concern the adoption of digital tools by government agencies, particularly in the transition to e-government, as well as the provision of social and healthcare services (Lee-Geiller & Lee, 2019).

Housing is the third most common policy field, with 25 papers (22%), although this category, as defined under the CAP framework, largely reflects issues of **urban development** rather than housing per se, which rarely features explicitly in co-creation contexts. Housing (Urban Development) is also the second most frequently paired policy field (20 papers) and exhibits the second most diverse range of policy pairings (11 different policy fields), underscoring the inherently cross-sectoral and interdisciplinary nature of urban development initiatives.

Table 15. Frequency of top 10 policy fields in the analysed dataset (n=111)

CAP Code	Policy Field	Number of Papers	Frequency
7	Environment	46	41.4%
20	Government Operations	36	32.4%
14	Housing	25	22.5%
3	Health	15	13.5%
13	Social Welfare	11	9.9%
17	Technology	9	8.1%
21	Public Lands	9	8.1%
10	Transportation	7	6.3%
8	Energy	7	6.3%
4	Agriculture	7	6.3%

This result implies that co-creation seems suitable to govern the twin transition. First, the green transition is directly related to climate change and environmental protection, but it also encompasses issues such as housing availability and public health. Second, the focus on government operations highlights that many co-creation tools—at least as discussed in the reviewed literature—are applied to the functioning of the bureaucracy itself. This is particularly interesting because it shows that co-creation is not only used to design sectoral policies, but also to reflect on and reshape the functioning of the state. In U.S. terms, this concerns “government,” while in continental European terms, it refers to “public administration.” For the sustainability of multilevel governance, it is essential both to strengthen public acceptance of bureaucratic institutions and to ensure that citizens can participate effectively in shaping their decisions.



8. Conclusion

8.1 Summary of findings

This report set out to clarify the position and meaning of co-creation in public governance and to conclude by integrating that understanding with its application in the context of MLG. It delivers a consolidated evidence base and practical insights, featuring a common vocabulary, a map of governance models and actor roles, a synthesis of methods, tools and stages, a comprehensive view of benefits, challenges, and risks, and a positioning of co-creation within MLG that is geared towards legitimacy, effectiveness, and inclusion. Within RECODE MLG, these findings set down the foundations for developing WP2's theoretical framework and inform the design and evaluation of the project's co-creation labs and subsequent work packages.

Co-creation can be a practical lever for governing Europe's twin transition in systems where authority and capacity are distributed across the EU, national, regional, and local levels. Realizing this potential, however, requires more than "doing more participation." It calls for embedding co-creation within MLG so that knowledge, resources, authority, and decisions circulate up and down the system. In policy terms, co-creation is a process through which public authorities work with citizens and stakeholders to define problems and design, test, implement, and, eventually, evaluate solutions and outcomes across the policy cycle. When this process is integrated into MLG, co-created insights generated in local arenas are transmitted to regional, national, and EU decision points and translated back into implementation, so that citizen voice, technical expertise, and delivery capacity reinforce each other rather than operating in parallel.

Across its eight parts, the report:

- i. Clarified what co-creation means in public governance and distinguishes it from related "co-" concepts;
- ii. Synthesised the main governance models and actor configurations associated with co-creation and specified the conditions under which it delivers durable public value;
- iii. Mapped how co-creation is implemented (tools, methods, and a consolidated seven-stage process) alongside the main barriers and current evaluation practices;
- iv. Summarised the benefits most consistently reported (e.g., stronger democratic legitimacy, better knowledge and policy fit) and the recurring risks (e.g., tokenism, elite capture, weak accountability, scaling failures); and
- v. Analysed how co-creation is positioned within MLG systems, where it occurs across policy fields and stages, and what this implies for coordination, legitimacy, and capacity across governance levels.

Several cross-cutting insights emerge from this analysis. Within the policy process, co-creation practice and scholarship predominantly focus on implementation, with far less systematic attention to agenda-setting and decision-making. This imbalance restricts the opportunities for citizens and communities to influence policy priorities and align them across governance levels. The pattern is most visible in environmental and urban policy domains, which dominate the evidence base and have the longest track record of co-creation initiatives.

Furthermore, the analysis reinforces the view that the benefits and risks of co-creation are interlinked and travel together. Well-designed processes can enhance democratic quality by broadening participation and engagement. They can also improve knowledge relevance by integrating diverse expertise and increase policy fit by aligning solutions with real-world needs. Yet these same processes can falter if participation is tokenistic, if stakeholders face excessive procedural burdens, or if promising innovations fail to scale beyond pilot projects due to institutional inertia or siloed mandates.

Geographically and institutionally, co-creation is deployed predominantly at the local level, where co-design, experimentation, and co-delivery can be closely integrated and responsive to community needs. However, explicit analysis of multi-level linkages (e.g., how insights, resources, and mandates flow between local, regional, national, and supranational levels) remains sparse. When such linkages are described, they tend to follow a broadly consistent pattern where supranational and national actors set overarching mandates, legal frameworks, and standards, regional and municipal authorities adapt these frameworks to local contexts, implement solutions, and generate experiential evidence, and bridging organisations (such as metropolitan authorities, water councils, regional innovation agencies, and universities) translate priorities, methods, and knowledge in both directions to enable mutual learning and coordination. Operationally, the local level remains the principal site where co-design merges with co-delivery and where democratic experimentation is most visible. Meanwhile, national and EU bodies tend to exert their influence through regulation, finance, and standard-setting rather than hands-on co-creation.

Consequently, key implications for MLG are the need to bring co-creation upstream into problem framing and the development of policy alternatives, and to establish clear vertical pathways through which locally generated evidence, priorities, and proposals can be systematically fed into decision-making forums with the authority and resources to act. Meanwhile, effective policy responses should pair local operational leadership with regional, national, and EU authorities that create the enabling conditions for scale. These functions include standardising evidence protocols and participation safeguards, aligning funding and procurement frameworks, and providing legal space for controlled experimentation. Such alignment ensures that learning and innovation can move across jurisdictions and governance levels rather than remaining confined to isolated projects.

Investment in cross-level and cross-sector linkages is essential in enabling these efforts. Digital platforms, built on common data standards, can facilitate the upward movement of citizen-generated evidence while transmitting resources, guidance, and policy mandates downward. Meanwhile, boundary-spanning organisations and well-resourced intermediaries (such as regional innovation agencies, metropolitan authorities, and sectoral networks) can steward these flows, translating methods, facilitating coordination, and ensuring that promising local pilots are adapted and adopted into coherent multi-level programmes.

Equally important is embedding inclusion and legitimacy as core principles in MLG co-creation. This means ensuring that underrepresented groups can influence not only local projects but also regional, national, and EU policy agendas. Inclusion safeguards should be applied consistently at every governance level, including the use of accessible formats and venues, representation targets, and transparent feedback loops. By institutionalising these practices, co-creation can strengthen democratic legitimacy across levels, ensuring that policies reflect the full diversity of voices and experiences in society.

Overall, this report provides the conceptual and empirical foundation for RECODE MLG to test, evaluate, and mainstream co-creation within Europe's MLG system. It offers a shared frame, a structured evidence base, and clear design implications that subsequent WPs will carry into comparative analysis, lab implementation, and a practical policy toolkit for integrated, inclusive, and adaptive governance.

8.2 Gaps and limitations in the co-creation literature

The academic literature on co-creation has grown rapidly over the past decade, yet it remains shaped by a somewhat normative bias, which was already recognized by Voorberg et al. (2015) in their systematic review. Most studies start from the assumption that collaboration, participation, and inclusion are inherently desirable and effective forms of governance. This optimism bias portrays co-creation as a win-win approach that simultaneously enhances legitimacy, innovation, and efficiency, without seriously considering potential trade-offs. As a result, the literature often underplays its potential downsides, such as conflict, failure, or unequal outcomes. Up to now, only a few studies investigate how disagreement, resistance, and haggling shape the outcomes of co-creation processes (Laamanen & Skålen, 2015; Williams et al., 2020; Felt et al., 2023). The prevailing tone in the analysis of co-creation tends to be optimistic, drawing on “positively connotated” concepts such as empowerment, trust, and mutual learning, which position initiatives of co-creation as expressions of “good governance” (or “robust governance”) rather than as contested political practices (Torfinn et al., 2021; Scognamiglio et al., 2023). Similarly, the roles of dissenting actors, such as social movements, protest groups, or oppositional coalitions, are undertheorized, especially around politicized issues or in contested settings (Bammer, 2019). Where conflict appears, it is typically described as a failure of process design or an obstacle to be

managed or designed away rather than part of a democratic process (Laamanen & Skålén, 2015; Ansell & Torfing, 2021b).

Moreover, much of the co-creation literature treats active citizen involvement and cross-sector collaboration as an instrument to improve service delivery and legitimacy of policy decisions rather than as a democratic mechanism for negotiating power, values, and trade-offs (Bammer, 2019; Messiha et al., 2023). This instrumental focus risks depoliticizing complex societal challenges, framing them mainly as coordination or design problems rather than as outcomes of competing interests and value conflicts (Nabatchi et al., 2017; Trischler & Charles, 2019; Cousins, 2021; Turnhout et al., 2020). It may also overlook the structural inequalities that shape who participates and who benefits from co-creation initiatives (Leino & Puumala, 2021). For instance, because they are typically designed as open, participatory, and multi-actor platforms, such initiatives create new spaces of engagement that are less formally regulated than traditional bureaucratic procedures. Therefore, they may (unintentionally) amplify opportunities for venue shopping, enabling well-resourced or strategically skilled actors to influence outcomes by steering discussions toward the arenas and forums where their positions carry more weight or face less scrutiny (Ansell & Gash, 2008; Ansell et al. 2025). In MLG settings, this dynamic is particularly pronounced, as boundary-spanning actors operating across tiers of government can play “two-level games”, and leverage their positional advantage to dominate co-creation processes or control access to key decision venues, thereby reinforcing existing asymmetries in influence.

Indeed, few studies critically examine when, where, and for whom co-creation actually delivers value (Cousins, 2021; Lennon et al., 2019; Zafra-Calvo et al., 2020). Although sometimes recognized, questions of context, power relations, and asymmetries in resources and influence are often treated as secondary issues rather than as central to the functioning of co-creation in practice. For instance, while many co-creation frameworks increasingly emphasise fairness and inclusion, critical aspects such as gender equality, intersectional representation, and the participation of cultural minorities are often missing or are under-addressed.

Another notable gap in the co-creation literature concerns the limited attention given to citizen incentives and motivations for participation. Much of the existing research assumes that citizens are naturally willing to engage in public decision-making when invited, yet evidence suggests that participation is contingent on a mix of intrinsic motivations, instrumental benefits, and institutional conditions that make engagement both meaningful and rewarding (Ansell & Gash, 2008; West et al., 2019). From a governance perspective, many co-creation initiatives underestimate the transaction costs imposed on citizens, which can hinder sustained involvement, especially of the disadvantaged segments of the population. The growing use of digital platforms has further complicated these dynamics. While online tools can lower participation barriers

and broaden access, they also risk reducing engagement to a superficial exercise, turning citizens into data providers or passive consultation participants rather than genuine co-decision-makers (Bonsón et al., 2015; Lee-Geiller & Lee, 2019; Pauluzzo et al., 2024).

This challenge connects directly to the ambiguous and usually superficial treatment of democracy in co-creation literature. The conditions that shape citizens' willingness and ability to participate are inseparable from the democratic frameworks within which co-creation takes place (Ackerman, 2004; Turnhout et al., 2020). Yet when democracy is discussed, it is often invoked inconsistently, sometimes referring to formal institutions and electoral accountability, at other times to different forms of representation and legitimacy modes, and elsewhere to inclusive participation, deliberation, or co-decision-making. While co-creation is frequently promoted as a means of revitalising democratic practice, this conceptual limitation prevents a systematic understanding of how it relates to the broader transformations of democratic governance underway in many societies.

Another limitation of the current co-creation literature lies in its frequent yet loose application of network terminology. Many studies refer to co-creation networks, partnerships, or ecosystems, but few employ systematic social network analysis to map and understand the actual patterns of interaction, influence, and information flow among actors (Karpouzoglou et al., 2016; Jean et al., 2018; Chambers et al., 2021). As a result, the relational structure of co-creation remains poorly understood. Relatedly, significant blind spots remain concerning the diffusion and scaling of co-creation within MLG. While many studies describe the spread of co-creation practices across policy domains and levels, few explain how these processes unfold and what effects scaling-up has on governance quality, legitimacy, and inclusiveness.

Selective case choices also limit the evidence base of real-world co-creation. Research tends to focus on “success stories” such as living labs, innovation platforms, and co-design workshops, which are settings that exemplify cooperation rather than contestation. Consequently, there is little comparative evidence on failed or conflict-ridden co-creation processes that could shed light on the institutional and political barriers to active citizen participation and its implications. This selection bias produces a one-sided understanding of how co-creation operates under real governance conditions, where competition over resources, mandates, and legitimacy is an integral aspect.

For MLG systems tasked with managing complex societal transitions, such as the green and digital transition, such gaps represent a challenge and require more research. These transformations are inherently political, entail distributional consequences as they create winners and losers, demand negotiation of priorities across scales, territories, and sectors, and need to rely on sustained citizen input and legitimacy for durable outcomes. A conception of co-creation that overlooks conflict, the costs of participation, and inherent power asymmetries as integral elements of collaboration risks producing superficial consensus rather than genuine problem-solving. As mentioned above, the

literature still lacks a clear understanding of how co-creation fits within broader democratic transformations, how network structures shape influence and collaboration across governance levels, and how co-creation practices diffuse and scale within multi-level systems. Without addressing these dimensions, co-creation risks remaining a fragmented and idealised concept rather than a robust framework to study and govern complex societal transitions.



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