



Co-creation, Collaborative Innovation and Open Innovation in the Public Sector: A Perspective on Distinctions and the Convergence of Definitions

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Abstract

Collaborative approaches to innovation with citizens are captured in various and often interchangeable terms, such as collaborative innovation, co-creation, open innovation, social innovation and innovation network.

A systematic review of the literature was used to analyse this research area. The aim was to explore how terms regarding collaborative approaches to innovation with citizens have been defined and applied in the public sector and to identify research streams that characterise the literature.

We found that collaborative approaches to innovation with citizens are named, defined and conceptualised in different ways and are poorly defined, leading to conceptual limitations and hampering comparisons between studies.

The three terms used most often—co-creation, collaborative innovation and open innovation—share many similarities, although they stem from different academic origins. Our discussion of the terms may contribute to a clearer conceptual distinction between the terms, and improve both analytical precision and empirical comparison.

Keywords

collaborative innovation, co-creation, open innovation, systematic review

1. Introduction

As active researchers in innovation in the public sector aiming at societal development, where collaborative approaches to citizen involvement are applied, we find that the terms co-creation, co-production (Voorberg et al., 2015), collaborative innovation (Lopes & Farias, 2020), open innovation (Pedersen, 2020), social innovation (Husebø et al., 2021) and innovation network (Li, 2021) are used frequently.

In practice, there is significant confusion regarding these terms, making discussion and common understanding difficult. There is no evidence of common agreement on the understanding of terms describing collaborative approaches to public innovation with citizens, either in the field of practice or amongst scholars (Andersen et al., 2018; Røhnebæk & Holmen, 2021; Rønning, 2021).

We have experienced that such variation and overlap in terms may blur the dialogue in the collaboration between researchers and practitioners in innovation research projects. For academic purposes, a good term draws on the theoretical utility and differentiation relevant to building hypotheses and explanations (Gerring, 1999). We argue that a clearer conceptual distinction between terms may improve analytical precision and empirical comparisons.

Citizens are playing an increasingly important role in spurring public sector innovation and creating new democratic arenas within the framework of New Public Governance (Christensen, 2021; Osborne, 2010; Voorberg et al., 2015). Citizens' involvement in the co-creation of public services, that is, as clients or users, has been studied extensively (Alves, 2013; Donetto et al., 2015; Müller & Pihl-Thingvad, 2020; Osborne et al., 2016; Trischler et al., 2019; Voorberg et al., 2015). However, collaborative approaches with citizens in innovation on societal development issues have received less attention (Hagen & Higdem, 2020).

Therefore, this systematic literature review aims to explore how terms regarding collaborative approaches to innovation with citizens have been defined and applied in the public sector and to identify which research streams characterise the literature. The review is delimited to research on collaborative approaches with citizens as citizens, not labelling them as clients or users of services.

We ask the following research questions: *Are collaborative approaches to innovation with citizens defined and conceptualised in different ways, and what are the similarities and differences between the key terms used in the literature?*

Our literature review contributes to a clearer understanding of the distinction between co-creation, collaborative innovation and open innovation by arguing that co-creation is a form of collaborative innovation, and collaborative innovation is a form of open innovation. We consider co-creation to be an attempt to reconcile two theoretical directions: governance and innovation, and their different institutional logics.

2. Research Strategy

In this study, we utilised a systematic review approach, following well-established guidelines (Grønmo, 2019). We searched the databases Scopus and Web of Knowledge to find articles relevant to our concept of interest, title, abstract and/or keywords.

To establish the search criteria, we began by writing the following sentence to help us identify the search words: 'Co-creation of public innovation in the local public sector'. We tried different search combinations with different synonyms for the context and topic to capture relevant articles without overreaching them. To narrow the search, some keywords were excluded, including network and co-design. We then determined whether the search captured articles that we already knew were key articles in the field (e.g. Torfing et al., 2016).

To define the public sector character of innovation, we used the following terms: (municipal* OR 'public sector'). We wanted to find articles studying innovation; thus, we also included the keyword (AND innovation), although the innovative character can be implicitly mentioned. We were interested in all types of innovation in the public sector and therefore did not add 'public service'.

For the collaborative approach, we used the following search terms: (co-creation OR cocreation OR collaborat* OR 'citizen participation' OR 'public participation'). We considered collaborative and co-creation to be the most frequently used terms for innovation with citizens. To capture other terms and forms of innovation with citizens, we included the terms 'citizen participation' and 'public participation'. We were specifically interested in

the concept of involving ordinary citizens in tasks that are traditionally the public sector's responsibility. Hence, we used the term 'citizens' rather than 'users'. We are aware of the interchangeable use of co-creation and co-production, but the inclusion of co-production would have led to an enormous increase in the number of records to be examined. Therefore, we may have overlooked influential papers focusing on users and/or public services innovation.

The last search was run on 2 February 2022. Only articles from peer-reviewed journals written in English were selected. Screening ultimately led to the inclusion of 129 articles. Our selection process is presented in Figure 1.

We first identified duplicates. Each record was then assessed for eligibility based on its abstract. Studies were included if they met the following criteria: *a) population: both the public sector and citizens or the voluntary sector; b) field: the innovation process; c) areas: Europe, America and Australia; and d) year: from the year 2000 and beyond.*

The inclusion criteria were reviewed by the first author, and a decision was made by both authors on 115 articles to ensure the reliability of the decisions. After the inclusion process, 155 articles were imported to NVivo for further analysis, 26 of which were excluded after full-text reading. The remaining 129 articles were analysed in the review.

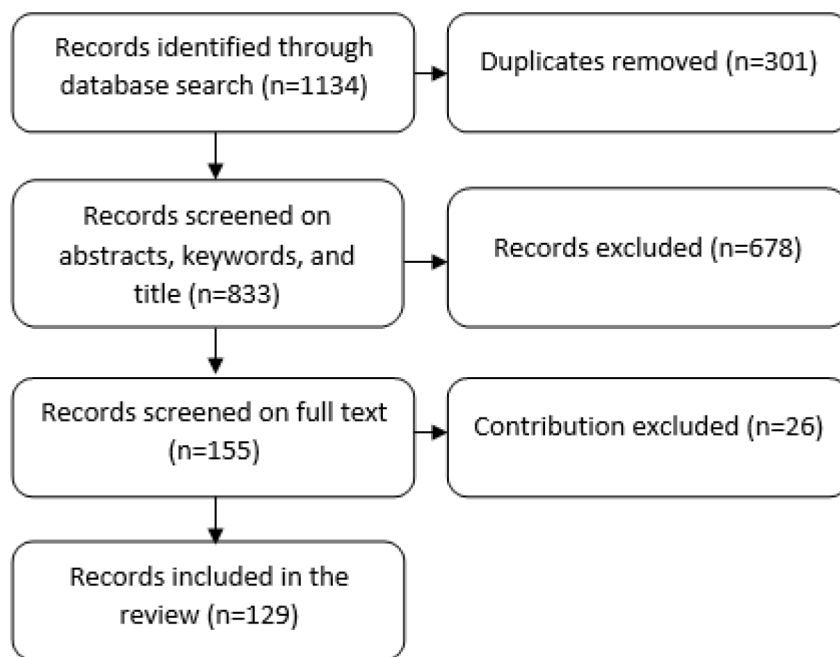


Figure 1. Flow diagram of the research strategy.

3. Results of the Systematic Review

Record characteristics

Not surprisingly, the number of studies on collaborative approaches to innovation has increased over the years. The first of the 129 included articles was published in 2006 as the sole related article that year. In the initial years following, we found only 1–3 articles per year, which slowly increased to 25 articles per year in 2020 and 2021.

The variety of journals in which the articles were published was vast: the 129 included articles were found in 78 journals, and 57 journals had only one article. *Public Management Review* and *The Innovation Journal: The Public Sector Innovation Journal* are the leading journals in this field, with *Sustainability* coming in third. Journals on planning, technology

innovation and forecasting, government studies, public administration, management and money and public deliberation were also represented, with 2–4 articles each in the 20-year period. In addition, we found journals on urban planning, smart cities, sustainability and mathematics. There was also a large variety of authors. Nevertheless, Sørensen and Torfing stood out as central authors in the field.

Most of the articles adopted a management research perspective, and many were concerned with service innovation, although policy and societal innovation were represented as well. Moreover, many articles focused on drivers and barriers (Baptista et al., 2020; Torfing et al., 2016), and the governance and management of the collaborative processes (Ongaro et al., 2021; Sørensen & Torfing, 2017; 2019).

Most of the articles were empirical case studies with mainly qualitative data. The case studies were dominated by an urban focus, with little examination of rural perspectives. Most cases concerned spatial issues, such as planning, development and infrastructure. Furthermore, the empirical studies were mostly conducted at the micro-level, with few considering the macro-level, such as programmes and overall policy development.

Most frequently used terms

To begin the discussion of the definitions of terms for collaborative approaches to innovation with citizens, we examined the terms frequently used to describe innovation with citizens in the public sector. We considered the titles, keywords specified in the article, and number of times the terms were used throughout the article, to find the authors' key terms when referring to collaboration in innovation. Table 1 shows the key terms used in more than one article.

Table 1. Concepts used as key term in more than one article.

	Number of articles
Co-creation	31
Open innovation	24
Collaborative innovation	23
Co-production	12
Democratic innovation	8
Social innovation	6
Co-design	4
Governance innovation	2
Open government	2

As expected, both co-creation and collaborative innovation were frequently used terms. Two other frequently used terms were open innovation and co-production. Thirty-seven of the terms were only used as a key term in one article, indicating that they were marginally used to describe collaborative approaches to innovation with citizens. Examples of these terms include social innovation, co-innovation, innovation ecosystem, penta-helix collaboration and policy collaboration.

Based on the most frequently used terms, we decided to include co-creation, collaborative innovation and open innovation in the discussion of the similarities and differences between the definitions of the terms.

4. The Origins of Co-creation, Collaborative Innovation and Open Innovation

One way to separate the terms is by their origination from different disciplines. Hence, we first discuss the origins of the terms, followed by their similarities and differences. The definitions in the review articles were used as a starting point to discover their origins.

Co-creation: From market theory to governance

Co-creation has developed into a much-used concept in the private sector from early 2000 (Ind & Coates, 2013), originating from management and marketing research with a customer focus. According to Baptista et al. (2020), co-creation with citizens is based on the adoption of service management arguments. Several authors have drawn on the service-dominant logic of Vargo and Lush in their definitions (Dugstad et al., 2019; Uden & Naaranoja, 2011). The first articles in which co-creation was used as a key term adopted a private sector approach and emphasised the need to incorporate co-creation with *users* in a public sector setting (Alves, 2013; Uden & Naaranoja, 2011).

Over the years, authors have begun to refer to public sector literature more frequently, especially Torfing et al.'s (2016) definition (see e.g. Baptista et al., 2020; Rădulescu et al., 2020). This definition is probably the closest to an authoritative definition of co-creation in the public sector. Torfing et al. (2016) classified co-creation as a form of co-production based on the idea of including customers or users in service production. Their understanding was close to Bovaird's (2014) notion of transformative co-production, which emphasised innovation, and Osborne and Strokosch's (2013) concept of enhanced co-production, which focused on the broad participation of different public and private actors. Osborne and Strokosch (2013) stated that discussions on public policy had begun to include co-creation as a key objective in public service delivery. They described enhanced co-production as a 'strategic mode in order to challenge the existing paradigm of service delivery. The aim is user-led innovation of new forms of public service' (Osborne & Strokosch, 2013, p. 37). They referred to this form of co-production as transformative innovation, often called co-creation in the private sector. Osborne and Strokosch also pointed out that co-creation should aim to find not only innovative solutions but also bold ones, which can be interpreted as radical innovation. However, Torfing et al. (2016) took the opposite position, and included innovative step-changes in their definition of co-creation.

Thus, co-creation emerged in the public sector literature related to service delivery around 10 years ago, and was then transferred to public administration scholars. Public sector researchers broadened the term and adjusted it to fit the public sector, bringing in other theoretical perspectives, such as public administration and governance.

Open innovation: From private to public innovation and policy development

Open innovation originated from firms collaborating with users and organisations outside the company to bring in others' knowledge and views. The most cited definition of open innovation in the reviewed articles is Chesbrough's definition (see, e.g. Fuglsang, 2008; Hameduddin et al., 2020; Pedersen, 2020). The term open innovation was introduced by Chesbrough in 2003 as a new business model for industrial innovation (Chesbrough, 2012). He described open innovation as a new paradigm for companies to achieve innovation by drawing on both external and internal resources and ideas to create value (Chesbrough et al., 2006). Open innovation emphasises the idea that *users* are important in the innovation process.

Fuglsang (2008) introduced open innovation in public innovation and argued that open innovation is also relevant to service development in the public sector. Pedersen (2020) broadened open innovation from service development to include public-sector collaboration with citizens and companies in policy development. Articles about living labs, city labs, and so on are mainly analysed from the perspective of open innovation (Fuglsang & Hansen, 2022; Gascó, 2017; Schuurman & Tonurist, 2016). Notably, this field has an even greater spread of authors than the articles using co-creation and collaborative innovation as keywords, and Sørensen and Torfing have no publications amongst the open innovation articles. Fuglsang is a dominant researcher in this field.

Collaborative innovation: A form of network innovation

In 2011, the first article using the term collaborative innovation was published (Sørensen & Torfing, 2011). Here, Sørensen and Torfing introduced an analytical framework for studying multi-actor collaboration, which they called collaborative innovation. Subsequently, there was one article written in 2012 on collaborative innovation (Sørensen, 2012), followed by an article by Amdam (2014). These contributions defined a new strand of research in public innovation, as noted by Sørensen and Waldorff (2014).

The origin of the term collaborative innovation was elaborated by Lopes and Farias (2020) in their systematic literature review, in which they described it as a network approach. They attributed this to Bommert (2010), who referred to Nambisan's (2008) notion of collaborative innovation as a new form of innovation in the public sector. Nambisan (2008) considered collaborative innovation to be a form of network-based problem solving and argued that collaborative innovation approaches from the private sector clearly extend to the public sector context. Conversely, Nambisan (2008) argued that network-based collaborative approaches in the public sector are not new, and that network models have been limited to the production and delivery of government services.

In sum, the terms open innovation and co-creation both emerged from the private sector 10–20 years ago. Co-creation originated from marketing, and open innovation came from the innovation literature. Collaborative innovation seems to be tied to network-based collaborative approaches in the public sector and public governance and connected to citizen participation in the development of public policy (Lopes & Farias, 2020). All these terms have been developed, broadened and become more nuanced in recent years.

The terms' disciplinary origins: From governance and innovation theory

In the following section, we apply a definitional and conceptual strategy and emphasise the disciplinary origins of the various concepts. In Figure 2, we illustrate that the terms stem from two main research areas, innovation and governance, which differ in their approaches to citizen involvement and suggest that co-creation can be positioned under the umbrella of both collaborative governance and collaborative innovation. Simultaneously, we note the close link between collaborative innovation and collaborative governance, as collaborative innovation originates from network governance theory.

Both research streams use the terms open and collaborative to describe ways of involving and collaborating with citizens and other external actors. The terms, while closely related, are slightly different. The streams differ primarily in their aims and institutional logic. Friedland and Alford (1991) distinguished between five basic macro-institutions in society: the family, religion, democracy, the capitalist market and the bureaucratic state. Each has its own institutional logic, which regulates and shapes actors' actions.

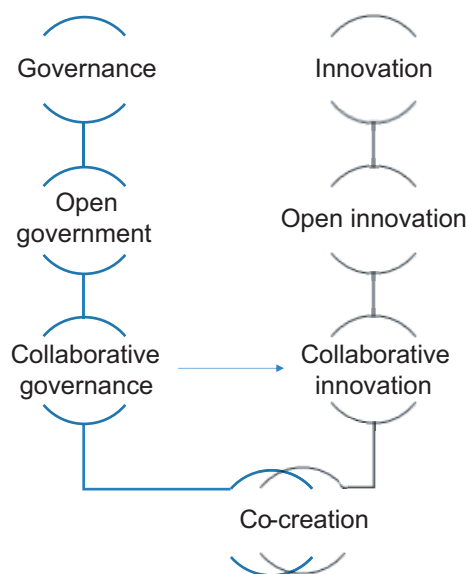


Figure 2. Classification of terms for collaborative approaches to innovation with citizens and their origins.

Innovation theory stems from the private sector and the logic of the market. Collaborative arenas based on economic logic aim to solve problems from an administrative point of view, such as by providing more efficient and better services. Ideally, these arenas include participants from as many different sectors as possible to ensure the greatest possible diversity in the process.

In turn, democratic logic is linked to the earlier and more active involvement of citizens in policy-making. This tradition is closely associated with governance research. Governance theory focuses on collaboration as a democratic tool to empower citizens as participants and to develop and strengthen democracy. Open government emphasises external actors' influence on decision-making arenas (Schmidhuber et al., 2018), while collaborative governance involves more active involvement in public policy decision-making (Unceta et al., 2019). Here, the emphasis is not on which sector the participants belong to, but on ensuring representativeness in relation to democratic principles. In these arenas, both politicians and laypersons (as voters) participate. There is no clear distinction between these arenas in practice. We highlight this difference because there may be different institutional logics behind the arenas, even if they aim to solve the same challenges, and to show that different logic can result in tensions and conflicting interests (Røhnebak & Holmen, 2021).

Collaborative innovation originates from network governance theory, which has a strong focus on metagovernance and creating public value rather than collaboration as a tool to spur innovation. Innovation theory focuses on administrative problems, such as service and process innovation, and builds on the institutional logic of the market. *Co-creation* combines these, and is not only related to the *co-creation* of public services, but also to other forms of public value outcomes, such as policy-making and societal problem solving (Bentzen et al., 2020). In summary, open innovation is clearly linked to innovation theory and collaborative innovation is linked to governance theory, although the name collaborative innovation clearly indicates that the subject is innovation. We consider co-creation an attempt to reconcile two theoretical directions: governance and innovation, and their different institutional logics.

5. The Similarities and Differences Between Co-creation, Collaborative Innovation and Open Innovation

We now turn to discussing the different aspects of the terms, focusing on how the definitions of the terms describe which actors are involved in the collaboration, the process or activity that they represent, and the aims of the process. Table 2 below shows some of the definitions used in the review articles, to illustrate the variations between the definitions and the terms. Co-creation has an especially broad range of definitions.

Table 2. Definitions in the review articles.

Article	Actors	Activity	Aim
Collaborative innovation			
Sørensen and Torfing (2018, p. 394)	Relevant and affected actors work across formal institutional boundaries	A process of creative problem solving to develop and implement	Innovative solutions to urgent problems
Kurkela et al. (2019, p. 250)	External networks and communities	Harnessing the resources and creativity	Innovation and problem solving in the public sector to enhance the range and quality of innovation outcomes or solutions
Rakšnys et al. (2020, p. 15)	Interaction of many stakeholders from various sectors	Share efforts in one or more phases of innovation	Promoting innovation in the public sector
Co-creation			
Torfing et al. (2016, p. 802)	Two or more public and private actors	A process which attempts to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences, and ideas, 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	Enhance the production of public value in terms of visions, plans, policies, strategies, regulatory frameworks, or services
Baptista et al. (2020, p. 224)	Public sector organizations and public service users	Actively interact and exchange resources, knowledge, competences, and ideas	Enhance the production of value for the citizen or the society in general
Criado et al. (2021, p. 453)	Organizations and individuals define a community	A problem-solving process, or co-production model, consisting on participative action	Call for the voluntary resolution of a specific challenge
Open innovation			
Pedersen (2020, p. 2)	Organizations open up their innovation processes	A model for the management of innovation and combine internally and externally developed ideas and technologies	Create value

Actors

Collaboration can occur between actors within the same organisation (e.g. between different professions) and can be cross-institutional or cross-sectoral. Collaboration may also exist with one or several actors. Collaboration between several sectors is often called triple-helix (Eneqvist & Karvonen, 2021), quadruple helix (Berglund-Snodgrass et al., 2020) or penta-helix (Sjögren Forss et al., 2021), depending on the number of sectors involved.

Co-creation, *collaborative innovation* and *open innovation* all emphasise that collaboration is with someone outside the organisation (Kurkela et al., 2019; Schuurman & Tonurist, 2016; Sørensen & Torfing, 2018). The *open innovation* approach seems to be less interested in which actors outside the public organisation the *collaborative innovation* is with, and simply refers to *open innovation* as when ‘organisations open up their innovation processes’ (Pedersen, 2020, p. 2). The original idea of *open innovation* was based on collaboration between two actors, and it developed to include several organisations and actors, which Chesbrough (2012) described as innovation communities. Fuglsang (2018) broadened this perspective by including relevant actors, such as public sector organisations, professionals, other practitioners, entrepreneurs and users.

Osborne and Strokosch (2013) broadened the scope of *co-creation* from the private sector and the user perspective to also include third-sector organisations and frontline personnel. They emphasised that the actors involved should be from different sectors, as well as relevant and affected. This emphasis on actors’ relevance and affectedness, as opposed to someone merely representing an organisation, is also found in the *collaborative innovation* literature.

Relevant and affected actors, regardless of sector or institution, seem to be the main aspects of the various definitions of *co-creation* and *collaborative innovation* (Bentzen et al., 2020; Sørensen & Torfing, 2011, 2018). *Open innovation* also emphasises that the actors should be relevant.

Most definitions refer to different types of external actors, including citizens as individuals and third-sector organisations. Some definitions also indicate that there should be multiple actors (Schuurman & Tonurist, 2016) or that they should be from various sectors (Rakšnys et al., 2020). Some authors have narrowed *co-creation* to innovation with citizens (Meričkova et al., 2015; Voorberg et al., 2015).

Based on the definitions in the review, we consider the actors involved in *co-creation* to be multi-sectoral, with two or more actors from the public and private sectors (Torfing et al., 2016), including organisations as well as individual citizens (Criado et al., 2021; Rehm et al., 2021). We understand the definition of *collaborative innovation* to be broader than the definition of *co-creation* in the public sector, as *collaborative innovation* can refer to both inter-sectoral and multi-sectoral collaboration, and *open innovation* includes all types of actors outside the relevant organisation.

Activity

We regard innovation activity as an intentional process, with the aim of implementing new ideas in practise (Sørensen & Torfing, 2011). We first address which part of the innovation process the collaboration is related to, and then illustrate how some definitions also emphasise the quality of the collaboration as an important characteristic of the terms.

Co-creation, *collaborative innovation* and *open innovation* all refer to an external collaborative approach to innovation and problem solving, describing the activity as a

process (Alves, 2013; Baptista et al., 2020; Criado et al., 2021; Pedersen, 2020; Sørensen & Torfing, 2018; Torfing et al., 2016). *Open innovation* has a less specific approach, described as developing ideas and helping solve public problems (Pedersen, 2020; Yuan et al., 2021).

Additionally, the innovation process is systematised into five phases: defining the problem, idea generation, testing, implementation and diffusion (Hartley et al., 2013). Most authors have considered *co-creation* collaboration in all phases of the innovation process (Baptista et al., 2020). The *co-creation* literature generally emphasises the early involvement of actors and the idea that *co-creation* ideally entails high levels of involvement of all actors in all phases of the innovation process (Bentzen, 2022). A few authors have agreed with Voorberg et al. (2015) that *co-creation* includes only the initiator or design level.

The literature on *collaborative innovation* and *open innovation* has been less concerned with discussing in which phase the external actors are involved, although Rakšnys et al. (2020) stated in their definition of *collaborative innovation* that the actors may partake in 'one or more phases of innovation' (p. 15).

Finally, there are also normative elements in some of the definitions of *co-creation* describing how collaboration should manifest (e.g. active, constructive, balanced or reciprocal) (Baptista et al., 2020; Bentzen et al., 2020; Torfing et al., 2016). Additionally, *collaborative innovation* highlights normative elements in the process by using phrases such as shared efforts (Rakšnys et al., 2020; Sørensen & Torfing, 2018), although the normative elements are discussed to a lesser degree than in the *co-creation* definitions.

We can conclude that *collaborative innovation* is related to the innovation process in one or all phases of the innovation process, and that *co-creation* has an expectation that the actors should be involved as active and equal participants in the entire innovation process.

Aim

A central characteristic of innovation is its aim to create value. Most of the articles in the review were concerned with public value (Baptista et al., 2020; Genuchten et al., 2019; Pedersen, 2020; Torfing et al., 2016; Voorberg et al., 2015). The term public value was established as a counterpoint to shareholder value in the private sector (Bryson et al., 2015). Hence, public value is understood as 'that which is created or added through the activities of public organisations and their managers [...] pertinent to social outcomes' (Hartley et al., 2017, p. 672).

Osborne and Strokosch (2013) broadened the scope of *co-creation* from service production in the private sector to innovation as problem solving for societal problems, calling it policy-making *co-creation* and administrative problems, such as public service development. *Co-creation* should therefore aim to find new and better solutions and solve challenges in policy, society or public services (Baptista et al., 2020; Bentzen et al., 2020; Criado et al., 2021). In addition, some of the definitions of *open innovation* and *collaborative innovation* aim at public value. For example, Pedersen (2020) stated that the purpose of *open innovation* is to solve problems that are important for society, and Rakšnys et al. (2020, p. 15) emphasised that the process of *collaborative innovation* is intended to promote innovation in the public sector. We conclude that there is little difference in the aims of the different terms.

Summing up the differences between the terms

Our review primarily shows that the different terms are surprisingly similar. For example, Fuglsang (2008) described *open innovation* as *co-creation*, and Torfing et al. (2021)

described *co-creation* as synonymous with *collaborative innovation*. Lopes and Farias (2020) also adopted a pragmatic perspective and stated that studies on *co-creation* and *open innovation* offer the main insights into *collaborative innovation*. Despite their similarities, we will attempt to summarise the differences between the terms, see Table 3 below.

Table 3. Summary and synthesis of the terms.

	Co-creation	Collaborative innovation	Open innovation
Origin literature	Private sector, marketing and management	Public sector, public governance and networked government	Private sector, innovation
Actors	Relevant and affected actors in both the private and public sectors (multi-sectoral)	Relevant and affected actors (both inter-sectoral and multi-sectoral)	Relevant actors outside the organisation
Activity	Innovation or a problem solving process	Innovation or creative problem solving	Develop ideas and help solve public problems
Part of the innovation process	Ideally all phases	One or more phases	Unspecified
Quality	Constructive Balanced Reciprocal	Shared effort	Unspecified
Aim	Public value	Public value	Public value

Looking past the broad variety of definitions, all the terms refer primarily to different types of collaboration and share the view that collaboration can stimulate innovation, emphasising the interaction between different actors.

A central element is the creation of public value through collaborative processes. The aim of *co-creation* and *collaborative innovation* is to create public value through interaction between diverse and divergent actors who have a sense of commitment to or ownership of the question at hand (relevant and affected). We perceive that *open innovation* differs from the other two terms by emphasising the inclusion of external actors as a model for helping management obtain new ideas, although not necessarily as active and equal partners in a collective effort to solve common problems.

Co-creation and *collaborative innovation* are related to the innovation process in one or, preferably, all phases. Moreover, we find an expectation that the actors involved will be active and not passive participants in the innovation process. The definitions of *co-creation* are especially concerned with specifying that collaboration must occur in all phases of the process and between equal and active actors. The *open innovation* approach, however, is more open to what kind of process is at hand, who the actors should be, and how the process should take place. Figure 3 illustrates these differences.

Following Figure 3, we argue that *co-creation* is a form of *collaborative innovation* and that *collaborative innovation* is a form of *open innovation*. While the definitions of *collaborative innovation* and *co-creation* share many similarities, we consider *collaborative innovation* to be somewhat broader, including inter-sectoral collaboration.

We do not suggest that one term is superior to the other. Rather, the definition of *co-creation* is more specific about which actors are included and the type of activity and quality of the collaboration. *Co-creation* focuses on equality, joint action, distributed forms of interaction and the idea that the public sector is merely one of the actors involved in the

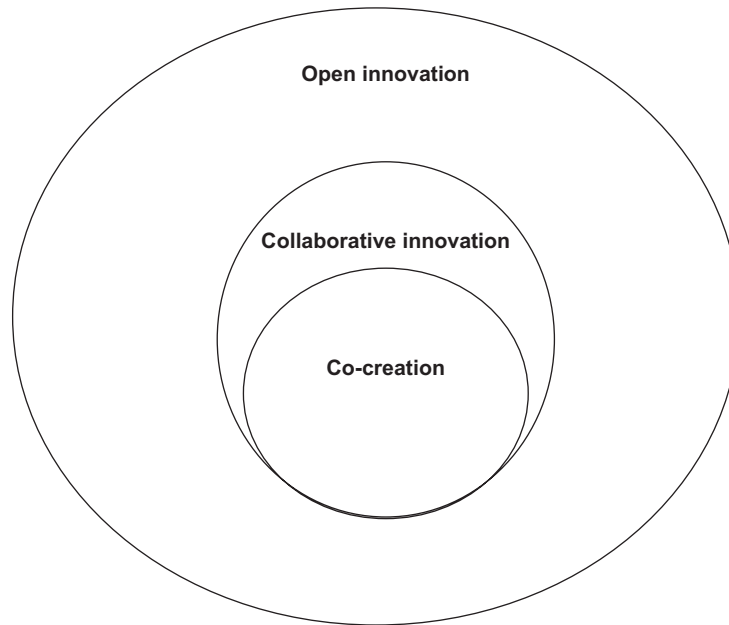


Figure 3. Illustration of the relation between the terms.

process (Bentzen, 2022). Hence, the terms apply to how specific the scholar wants or needs to be in describing the collaboration.

6. Conclusion and Paths Ahead

Our literature review contributes to the understanding of how collaborative approaches to innovation with citizens are defined and conceptualised, and identifies research streams that characterise the literature. We have sought literature that specifically addresses innovation with citizens for societal development purposes, which delimits the study from a user perspective.

We found that collaborative approaches to innovation with citizens have been named, defined and conceptualised in different ways, which in some cases led back to the different disciplines from which the terms originated. However, in general, the terms are poorly defined in the literature, leading to their blurring, conceptual limitations and hampering comparisons between studies. Terms may become inadequate as academic concepts if they are stretched and hence lose their explanatory power, making academic conversations difficult. Our discussion of the terms may contribute to improving the identification of relevant definitions for various studies.

However, this study has revealed the most frequently used terms—co-creation, open innovation and collaborative innovation—which share many similarities, although stemming from different academic origins. Co-creation originates from research on private-sector marketing and management; open innovation originates from innovation research and the private sector; and collaborative innovation originates from public sector research, public governance and networked government. Co-creation and open innovation are also evolving concepts in the public sector, which supposedly contribute to the convergence of definitions.

Co-creation, open innovation and collaborative innovation refer primarily to different types of collaboration, and share the view that collaboration can stimulate innovation,

emphasising the interaction between different actors to create public value. The terms differ regarding the scope of the actors involved, and factors such as equality between actors, joint action and distributed forms of interaction. Open innovation, however, differs from the other two terms by emphasising the inclusion of external actors as a model from which management can obtain new ideas, although not necessarily as active and equal partners.

This review found that different streams of research benefited from building on one another by adopting an interdisciplinary perspective. Perspectives from the fields of governance and public participation, public administration, collaboration and innovation emphasise different aspects of collaboration. However, specific public sector challenges should not be overlooked, such as numerous conflicting goals and democratic principles. The specific public institutional logic and context, and how the collaboration processes can be institutionalised in public sector organisations, are themes that have not yet been sufficiently addressed.

Finally, there are related research areas that could contribute important insights into collaborative processes that have scant evidence in the literature. For example, none of the articles in the review considered psychological safety (Edmondson, 2019) as an important factor in interaction and collaboration, and few drew on the theory of collaborative complexity in practice (Huxham & Vangen, 2013), with some exceptions (Diamond & Vangen, 2017; Torfing et al., 2021). Although there were some critical voices in the reviewed articles, there was little emphasis on the challenging aspects of collaboration.

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