Sofi Perikangas

Towards systematic co-production

A meta-design approach

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Author	Sofi Perikangas https://orcid.org/ 0000-0002-3555-4076
Supervisor(s)	Senior Researcher Sanna Tuurnas University of Vaasa. School of Management, Public Management.
	Professor Christoph Demmke University of Vaasa. School of Management, Public Management.
Custos	Senior Researcher Sanna Tuurnas University of Vaasa. School of Management, Public Management.
Reviewers	Professor Trui Steen KU Leuven. Public Governance Institute
	Professor Sofia Kjellström Jönköping University. School of Health and Welfare, Department of quality improvement and leadership
Opponent	Professor Trui Steen KU Leuven. Public Governance Institute

Tiivistelmä

Hyvinvointivaltion murros, jota maailmanlaajuiset haasteet kuten ilmastonmuutos, pandemiat ja muuttoliike kiihdyttävät, on kasvattanut tarvetta innovatiiviselle vuoropuhelulle akatemian, liike-elämän, hallinnon ja kansalaisten välillä. Näiden haasteiden keskellä esimerkiksi palvelujen yhteistuotantoa (co-production) on ehdotettu strategiaksi kansalaisten osallisuuden ja julkisten palvelujen paremman saatavuuden edistämiseksi. Palvelujen yhteistuotanto on potentiaalistaan huolimatta kohdannut myös kritiikkiä, kuten huolta kustannusten kasvusta, demokraattisen tilivelvollisuuden mahdollisesta heikkenemisestä ja pinnallisen osallistumisen riskeistä. Usein osallistaminen on hyödyttänyt enemmän politiikan tekijöitä kuin palveluiden käyttäjiä, minkä vuoksi suurempi huomio tulisi kohdistaa osallisuuteen ja toimijoiden sitoutumiseen. Tutkimuksen merkittävin teoreettinen kontribuutio on uuden, yhteistuotannon tutkimuksessa tuoreen tutkimussuunnan ja paradigman, yhteistuotannon muotoilun, esittämisessä. Tämä paradigma tunnistaa ensin yhteistuotannon monimutkaiseksi ilmiöksi, jonka tavoitteena on avointen järjestelmien luominen. Toiseksi se tunnustaa muotoilun tarpeellisuuden ennen yhteistuotannon varsinaista muotoiluvaihetta. Kolmanneksi se esittää yhteistuotannon tutkimusta muotoiluntutkimuksen osaksi, jossa kehkeytymisen prosessit (processes of becoming) ovat keskeisiä kiinnostuksen kohteita.

Tämän väitöskirjan tavoitteena on edistää ymmärrystä prosessilähtöisestä lähestymisestä yhteistuotannon tutkimukseen, jonka keskeisenä haasteena on ollut yhteistuotantoprosessien, niiden suunnittelun ja hallinnan ymmärtämisen parantaminen. Tutkimus tarjoaa kuvauksen siitä, miten yhteistuotantoa voidaan systemaattisesti lähestyä muotoilun avulla. Tutkimus ehdottaa meta-design-periaatteita yhteistuotannon analysoinnin ja suunnittelun tueksi. Niitä voidaan soveltaa julkisten palvelujen ekosysteemin (public service ecosystem) eri tasoilla. Väitöskirja esittelee teoreettisen kehyksen yhteistuotannon meta-designille korostaen osallisuuden tärkeyttä kaikilla julkisten palvelujen ekosysteemin tasoilla. Tutkimuksen tulokset korostavat tarvetta design-lähtöiselle lähestymistavalle julkisissa palveluissa. Meta-designin periaatteet voivat auttaa julkishallinnon ammattilaisia sopeutumaan muuttuviin olosuhteisiin ja vastaamaan kansalaisten tarpeisiin paremmin. Tutkimus toteaa myös, että julkishallinnon päättäjien tulisi edistää jatkuvaa parantamista tukevia toimintaympäristöjä.

Asiasanat: yhteistuotanto, muotoiluntutkimus, meta-design, osallisuus, julkisten palvelujen ekosysteemi, julkinen hallinta

Abstract

The transformation of the welfare state, fueled by global challenges like climate change, pandemics, and migration, has intensified the need for innovative dialogue among academia, business, governance bodies, and citizens. Amid these challenges, co-production has been suggested as a strategy for democratic engagement and enhancing public service delivery while advocating for equitable outcomes. Despite its potential, co-production has also faced criticism, with concerns about increased transaction costs, potential loss of democratic accountability, and risks of superficial participation. It often benefits policymakers more than service users, highlighting the need for greater focus on inclusion and equitable engagement. The most significant theoretical contribution of this dissertation resides in co-production research through the introduction of a rather underexplored research avenue and paradigm: the design of co-production. This paradigm first recognises co-production as a complex phenomenon aimed at creating open systems. Second, it acknowledges the necessity of design prior to design time in co-production. Third, it calls for co-production research as a form of design science, wherein the processes of becoming are key elements of interest.

Accordingly, the current dissertation is devoted to advancing our understanding of the process approach and design science within co-production research, where a key challenge has been enhancing our comprehension of co-production processes, their design, and management. Aiming to provide a cohesive depiction of how co-production can be systematically enhanced by design, this doctoral research has focused on the meta-design underlying and inherent in a co-production process. The study proposes meta-design principles applied across various levels of the public service ecosystem to enable agency, redistribute power, and enhance legitimacy. The dissertation introduces a theoretical framework for meta-design in co-production, emphasizing the importance of inclusivity at every level—from micro to macro—within the public service ecosystem. The practical implications of this research highlight the need for a design-oriented approach in public services that encourages inclusion and flexibility. Embedding meta-design principles into co-production may help public administrators to become more responsive to the citizen's needs and capable of adapting to changing circumstances. This study underscores the necessity for public administrators to foster environments that support continuous improvement. In essence, this dissertation contributes to the discourse on co-production by proposing meta-design as an analytical tool for the systematic enhancement of co-production.

Keywords: co-production, design science, meta-design, inclusion, public service ecosystem, public administration

ESIPUHE

Lapsena olin innokas lukija. Jukka Parkkisen Suvi Kinos ja seitsemän enoa -kirjat olivat lapsuuteni suuri inspiraatio. Ihailin sitä elämäntapaa ja elämää, jota Suvi vietti enojensa kanssa. Suvin enot olivat tutkijoita, luovia, ja vähän hullujakin, ja he antoivat Suville eväät elämään josta tuli hänen näköisensä. Tänä päivänä voin itse sanoa eläväni näköistäni elämää, ja väitöskirjan kirjoittaminen on ollut yksi tärkeä tekijä sen rakentamisessa.

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Kiinnostukseni kurkottaa muotoilijana kohti yhteiskunnallisia ilmiöitä ja julkisten organisaatioiden hallintaa ohjasi minut juttusille Sanna Tuurnaksen kanssa, josta kuin onnekkaan sattuman kautta tuli väitöskirjani ohjaaja. Haluankin kiittää Sannaa tästä yhteisestä matkasta. Olet ollut ohjaaja, kollega ja tärkeä työystävä, jonka kanssa akateemiset(kin) keskustelut lähtevät ilahduttavalla tavalla laukalle. Kun juttelimme mahdollisesta väitöskirjastani ensimmäisen kerran, tuli minulle hyvin varma olo siitä, että juuri sinun ohjauksessasi haluaisin sen tehdä. Olet ollut inspiraation, mutta erityisesti motivaation ja innostuksen lähde. Kiitos myös toiselle ohjaajalleni Christoph Demmkelle, joka kannusti minua purkamaan omia oletuksiani siitä, että kaikki tietävät mitä design on. Kiitokseni myös väitöskirjani esitarkastajille Trui Steenille ja Sofia Kjellströmille. Kiitos myös Truille lupautumisesta väitökseni opponentiksi.

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1 INTRODUCTION

1.1 Antecedents of co-production: Navigating agency, power dynamics and legitimacy

Few would deny that the welfare state is undergoing a transformation, necessitating the creation and utilisation of new methods of dialogue among academics, governing institutions, and citizens. Complex challenges such as climate change, resource scarcity, a global pandemic, and modern migration require innovative approaches to engage people in democratic decision-making and discussion, service innovation, and delivery. Nevertheless, there is a need for more rapid yet deliberate governance methods. We find ourselves operating within a multitude of crises – sometimes termed a "polycrisis" (Lawrence et al., 2024) – where planning is challenging but not impossible, particularly if we recognise that adaptable organisations can meet the specific requirements of governing systems (OECD, 2023). Although, empowering citizens to participate in addressing these modern challenges is not straightforward. Whether considered *users* or *customers*, citizens exist within a public service network that controls, enables, sets requirements for, and offers various interactions to citizens.

Co-production has been proposed as a response to the challenges of the welfare state, even considered a radical alternative to traditional forms of citizen participation implemented by governments (Osborne & Brown, 2011; Parrado et al., 2013). Co-production is also seen as a theoretical approach to nurture a more sustainable society (Miller & Wyborn, 2020). Co-production research has come a long way since the early work of Elinor Ostrom (1996). We already know something of the motivation of citizens who participate in co-production (Van Eijk & Steen, 2016) and of what is "good enough" evidence for governments to start engaging with co-production (Durose et al., 2017). We also know what can enhance the activation of co-production in several ways (Acar et al., 2023). According to Cepiku et al. (2022, p. 10), the propensity for innovation, flexibility and risk-taking in organisations supports co-production. In addition, we know a fair amount about the antecedents of co-production, ranging from a historical form of social movement concerned with service user emancipation to deliberative democracy and contemporary modes of collaborative or progressive governance, "which over the last two to three decades has offered an alternative to bureaucratic planning and market competition in the organisation and governance of public services" (Bevir et al., 2019, pp. 197-198).

I view co-production as the various strategies through which citizens, civil servants, and service providers collaborate to enhance the quality of life by improving public services while ensuring equitable outcomes for all (Brandsen & Honingh, 2016, p. 427; Vanleene & Verschuere, 2018, p. 199). In this study, I use the term co-production because the collaborative practices referred to largely involve the public sphere as a service provider or enabler. However, references to co-production also encompass the literature stream on co-creation – a prominent term in research on public services (Acar et al., 2023; Voorberg et al., 2015). Therefore, I understand co-production as an umbrella term for government-citizen interaction at different levels and forms of public policy and service formulation (Eriksson, 2022). The literature on co-production and public discourse has been heavily skewed towards optimism, and co-production is seen as offering a universal solution to organisational problems (Osborne et al., 2016). This perspective can easily overlook potential drawbacks of these processes, such as the loss of democracy, rising transaction costs, and the deliberate abdication of responsibility (Fenwick, 2012; Steen et al., 2018). Moreover, research into the effects of co-creation or co-production remains the least developed aspect of this field, particularly in terms of its impact on social equity (Acar et al., 2023; Steen et al., 2018).

Many of co-production's benefits seem to have been more advantageous for policymakers than service users (Khine et al., 2021); hence, inclusion is a necessary component for the analysis of equitable co-production (Lieu et al., 2023). The relationship between professionals and citizens in this context is a subject of discussion (see, e.g., Sicilia et al., 2016). However, there is a notable lack of systematisation in the integration of co-production into public sector processes (Brandsen et al., 2018, p. 5; Cepiku et al., 2020; Tuurnas, 2016). Cepiku et al. (2022, p. 6) highlighted the role of planning in co-production. That systematic review of co-production literature notes that "rational approaches to planning seem to clash with the absence of hierarchy that characterises voluntary collaborations". The dilemma between rational planning and equal participation among citizens is an ongoing debate (Espersen, 2024; Rubalcaba & Deschryvere, 2023).

Co-production can be seen as a means to produce agency through promoting empowerment and equity. As a method, it offers opportunities for dialogue, communication, and shared knowledge creation (see Hannula, 2020; Lund Petersen, 2019; Vaajakallio, 2012). Fair and just participation and benefits for all community members, especially marginalised groups, are central to co-production practice and research (Bovaird & Loeffler, 2016). Several studies address the dynamics of power in co-production, noting that its implementation suggests a

willingness of the government to share power with citizens (Farr, 2018; Rosen & Painter, 2019; Turnhout et al., 2020). Conversely, co-production often emerges from austerity policies and the demand for innovative services to address complex challenges (Fotaki, 2015; Habermehl & Perry, 2020; Kleinhans, 2017). The pursuit of more targeted and effective services is a typical motivator of co-production, as well as a catalyst for collaborative innovation in the public sector (Jukić et al., 2019). Co-production is more likely when governments are constrained in providing public services due to resource limitations, be they financial or relating to social capital or basic service infrastructure (Cepiku et al., 2020, pp. 5, 22).

Co-production carries a risk of tokenism; therefore, it should focus less on merely discussing change and more on enabling shared knowledge and empowerment among participants (Chauhan et al., 2023; Makey et al., 2022, pp. 3-4). Farr (2018, p. 640) outlines the challenge of achieving genuine power equality in public service co-production processes due to entrenched hierarchical structures, social inequality, and service user dependence on organisational services. While these participatory approaches positively impacted individuals' lived experiences, they typically resulted in only small-scale structural changes, suggesting a gap between the potential of co-production to redistribute power and their actual impact on broader systemic reform. Accordingly, the interrelation between co-production management, implementation and antecedents has been proposed as a potential research avenue (Cepiku et al., 2022, p. 13).

I align with Rocha et al. (2021, pp. 4-5, 8), who identify five key elements structuring co-production: transparency, information, trust, participation, and accountability. Transparency sets the expectations for the co-production process, serving as a foundational element for communication, consensus-building, and dialogue. Information sharing can initiate co-production: citizens serving as equal information and knowledge producers helps empower those citizens and to legitimise institutional systems. Information and power are intertwined, and citizen identity can be shaped by the power to participate in and influence a community's political life. Without this information and the resulting empowerment, citizens' contributions to meaningful change are limited. Thus, it is the responsibility of the public body to make plans to equalise any power relationship between participants and ensure the knowledge shared is accessible to all (Makey et al., 2022, p. 3), just as it must promote systems that deter inequity (McCandless et al., 2022, p. 143). According to Rocha et al. (2021, pp. 5-6), social capital, partially born in social interactions, is needed to create trust, which is a key element in motivating people to mobilise around collective issues. Trust is often discussed from the citizen's perspective, focusing on their motivation and empowerment, but it is equally important from the government's side;

governmental trust and motivation are essential for the success of co-production (Fledderus et al., 2014).

The promotion of social equity in co-production not only addresses issues of representation and access but also enhances the effectiveness and legitimacy of the resulting services (Bovaird & Loeffler, 2016). Participation is a preliminary level of engagement, where citizens share power with public officials, and inclusion is again a key cornerstone for the element to materialise (Rocha et al., 2021, p. 7). According to Farr (2018, p. 623), while co-production processes can potentially challenge and alter existing power dynamics in public service development, achieving more equitable relationships and meaningful change across various levels – individual, organisational, and systemic – requires ongoing and critical reflection and dialogue. This continuous evaluative practice is crucial for identifying and addressing power imbalances, ensuring that collaborative efforts lead to significant and sustainable improvements in service design and delivery. Thus, the redistribution of power is key to the practice of co-production (Rocha et al., 2021, p. 10). Accountability has a systemic nature; hence, it is born in the interaction of different actors and the roles they adopt (Rocha et al., 2021, p. 8). Service quality can be seen to be positively affected by co-production, and co-production can foster organisational adaptability and flexibility, thus enhancing innovation (Cepiku et al., 2022, p. 12). Inclusivity, transparency, flexibility, and deliberation are qualities that can ultimately legitimise co-production, and the study of these qualities has been recommended (Ansell & Gash, 2008; Bovaird & Loeffler, 2012; Nabatchi et al., 2017; Torfing et al., 2012).

Concurrently, societal discourse increasingly demands more representation, participation, and inclusion from traditionally neglected citizen groups. Such groups often suffer from societal and environmental issues and would greatly benefit from being involved in decision-making and service development. However, recent co-production research indicates that collaborative activities often do not align with the goals of enhancing representation or equity (Eriksson, 2022). It has been suggested further research focus on understanding the factors that promote or hinder inclusiveness in co-production processes (Cornips et al., 2023; van der Graaf, 2023). Cornips et al. (2023) advocate a deeper insight into how co-production mechanisms, strategies and tools can be developed to engage a wide range of citizen groups more effectively and integrate diverse perspectives, ultimately leading to more inclusive and effective co-production efforts. Moreover, although technological advances offer greater opportunities for participation, even enhancing inclusion, those technologies can also hinder citizen representation and participation, depending on how co-production is designed (Perikangas & Tuurnas, 2023; Zou & Zhao, 2022).

1.2 The need for more knowledge of co-production design

Tuurnas (2016) suggests that public service organisations should evolve their operational logics, transitioning from ad hoc co-production experiments to more sustainable solutions for co-creating services and establishing sustainable governance models. Developing such models necessitates understanding the underlying nature of co-production (Masterson et al., 2022). Cepiku et al. (2020, p. 12) provide a comprehensive framework for evaluating co-production processes. They emphasise addressing the gap in the literature concerning the design and management of co-production, as well as a deeper understanding of its ultimate effects, thereby highlighting the clear need for a greater understanding of this phenomenon. Thus far, little is known about how to integrate design in public organisations (Brinkman, 2023), and this can also be applied to the case of co-production. Co-production introduces complexity by involving diverse actors from various sectors of organisations and external stakeholders, including citizens (Madden et al., 2020). This multifaceted engagement can lead to value tensions among participants. (Jaspers & Steen, 2019). To prevent co-production from failing, process design and self-reflexive practices have been recommended (Williams et al., 2016). Design of collaboration does not guarantee its success but makes the facilitation more adaptable: "A good design seems to make a facilitator more flexible rather than inflexible" (Kolfschoten et al., 2007).

Design is the activity that directs a process; it is a semiotic phenomenon that is dependent on cognitive and developmental processes (Kazmierczak, 2003, p. 45). Further, it

> *...is a vague, ambiguous, and indefinite process of...emergence, or formation of something to be executed, but whose starting point, origin, or process often are uncertain. ...It is about the primordial stage of capturing, conceiving, and outlining the main features of a plan, and, as such, it always precedes the planning stage (Terzidis, 2007, p.69).*

Design can be connected to a meaning-making process, where the process is constructed upon two modes: the conventional mode and design mode (Manzini, 2015:30). One is the mode of the usual or static, where tasks are performed according to structure, and tradition, the other is that in which the actor constantly seeks ways to navigate change. The origin in the Greek language implies that design is "about incompleteness, indefiniteness, or imperfection, yet it also is about likelihood, expectation, or anticipation" (Terzidis, 2007, p.69). Our rapidly changing world demands more and more people to act in the design mode, actively

contributing to change, whether professional designers or not (Manzini, 2015, p. 31). Accordingly, I perceive design as the process of navigating a changing environment and the creation of the sociomaterial structure of a phenomenon (Bjørn & Østerlund, 2014). Design can encompass any type of individual or collective process that aligns with the above. Participatory design, co-design, service design and meta-design are each different design approaches that refer to a certain mode of design while not forgetting the emergence and ambiguousness that is inherent in design (Blomkamp, 2022; Botero & Hyysalo, 2012; Donetto et al., 2015; Giaccardi & Fischer, 2008; Robertson & Simonsen, 2012). When referring to the *design of co-production* or *co-production design*, I refer to a phase in the co-production process where the principles of co-production are defined.

In situations where designing and managing complex systems are central, multidimensional and innovative practices are required (Perikangas, Määttä et al., 2023, p. 15). This is particularly true in communities enduring complex social and societal issues (Vanleene & Verschuere, 2018, p. 199). Structured systems of power between organisations define societal dynamics and affect how services are distributed (McCandless et al., 2022, p. 143). Therefore, when designing and managing co-production processes, it is crucial to integrate strategies that explicitly target and promote the value of inclusion, ensuring that all voices are heard and accounted for and that the benefits of co-produced services are equitably distributed. The implementation of co-production has been seen as easier and potentially more accessible, inclusive, and transparent due to recent technological advancements (Brandsen et al., 2018, p. 4). However, the same challenges of traditional citizen engagement methods, such as official settings, specialised discourse, and the need for certain skills, also apply to digital participation (Perikangas & Tuurnas, 2023).

Consequently, the co-production process must be designed, prepared and facilitated thoroughly. Its designers should acknowledge that it may still require improvisation from process leaders or facilitators along the way. With careful design, co-production can become an integral part of managing organisations (Makey et al., 2022, p. 5). Tools such as service blueprinting can support the systematic design of public services that engage users as co-producers (Radnor et al., 2014). The constant need to negotiate changing situations has created a need to cultivate the capacity of people to be in design mode more often.

I have explained why co-production has the potential to strive for more equitable public service provision but also pointed out that co-production without systematic design and management may fail to address the issues emerging in complex public services. Next, I will approach the lack of design discussion in co-

production by proposing the use of meta-design and explaining why it is necessary to consider design theory more thoroughly in the context of co-production. Figure 1 depicts a classic co-design process by Sanders and Stappers (2008). Its benefit is in the understanding of the messiness and the ongoing contributions of the users of the design process over time. However, the process lacks a means of depicting the antecedents and the aftermath of a design process. Botero and Hyysalo (2012) acknowledged that issue while developing their own approach to the more cyclical nature of co-production. Although user-centred design places users in a largely reactive role and participatory design involves users as co-designers during the design phase, meta-design goes further by creating frameworks that support ongoing user engagement and innovation, thereby treating systems as living entities capable of evolving post-design (Giaccardi & Fischer 2008, p. 21). Meta design can be conceptualised as the design work and processes that occur in the background of public service design, forming an integral part of a co-production process (Perikangas & Tuurnas, 2023).

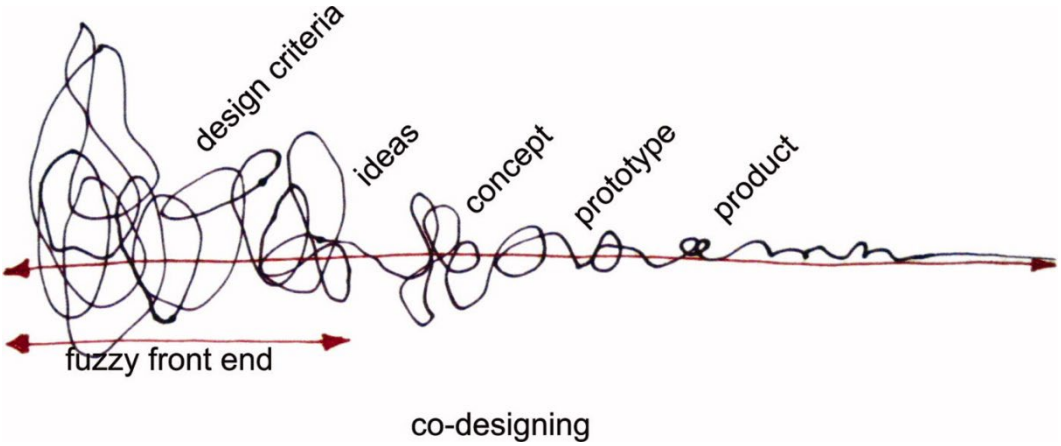

Figure 1. The classical depiction of a co-design process by Sanders and Stappers (2008) utilises a squiggle metaphor to represent the messy interactions with users over time.

Meta design addresses several critical challenges that occur in the co-production of public services (Giaccardi & Fischer, 2018):

> 1) Meta design helps in coping with ill-defined problems. It recognises that complex design issues often cannot be fully understood or described in advance, making traditional specification and faultless system development unattainable. It advocates for an integrated approach to framing and solving problems, where problem definition and solution development occur simultaneously;
> 2) Meta design supports reflective practitioners. It underlines the importance of designers engaging in continuous reflection on their actions. This ongoing process helps build an understanding of both the

problem and potential solutions, allowing for the discovery of new opportunities and emergent possibilities through the manipulation and arrangement of design materials over time;
3) Meta-design approaches design as a collaborative process. It stresses that complex problems exceed the knowledge capacity of any individual and that the required knowledge is often dispersed across various stakeholders with diverse perspectives. It emphasises the importance of collaborative efforts, bringing together individuals with different knowledge, skills, and motivations to foster more creative and sustainable outcomes;
4) Employing a meta-design approach offers mechanisms for addressing inclusion issues in co-production.

Studying the differences between service characteristics is not necessarily an effective way to understand co-production; instead, the conditions under which co-production can be activated are more relevant (Cepiku et al., 2022, p. 13). Further, Giaccardi and Fischer (2008) note that in an open system, redistributing design activities across design and use times involves navigating a "multidimensional design space" with three interdependent planes of design: *designing design*, *designing together*, and *designing the in-between*. The design plan focuses on creating flexible social and technological infrastructures, using anticipatory methods to accommodate potential future needs and changes that arise during use. Meta-designers set up conditions that enable modification of the system in response to unforeseen challenges encountered at the time of use, essentially preparing the system for adaptability. The designing-together plane focuses on the collaborative aspect of design, where designers and users work together. That aspect involves traditional participatory methods and support mechanisms permitting users to engage in the design process from the beginning and continue to shape the system as it evolves. This plane emphasises a dynamic collaboration where designer and user roles can fluctuate over time and across levels of interaction.

Designing the in-between plane concerns how individuals experience and navigate their relationships within the system, fostering social engagement through affective methods. It aims to support emotional and sensory responses that may spur unexpected and creative collaborative practices among actors. Overall, meta-design positions itself as a dynamic and collaborative design philosophy capable of addressing the inherent complexities and uncertainties of designing for emergent needs and contexts (Fischer and Scharff, 2000). Co-production is primarily a context-dependent phenomenon (Acar et al., 2023; Cepiku et al., 2022, p.12; McMullin, 2021). Accordingly, the specific co-production processes are not representative in other cases; however, studying the antecedents and methods of

co-production can permit general remarks on desirable co-production practices to be made (Farooqi, 2016). Research by Gheduzzi et al. (2021) suggests several strategies to enhance co-production: 1) providing knowledge and understanding about the co-production process, which can empower participants, making them more effective contributors; 2) focused facilitation, since facilitators play a vital role in steering discussions, managing interactions, and keeping the group focused on the goals of co-production; 3) acknowledging the need for a comprehensive understanding of how facilitators and providers should interact to enhance co-production implementation.

The contextual elements and antecedents of co-production are not manageable in the same time and space, which increases the complexity of co-production:

> *The general context and the antecedents of co-production act at different times: several influence the willingness and propensity to co-produce, some emerge during the interaction to influence the collaboration dynamics, yet others condition the final outcomes for the co-producers or the community at large. Moreover, they act in combination rather than in isolation." (Cepiku et al., 2022; p. 13).*

The meta-design lens enables co-production to be perceived as an open system; thus, when referring to meta-design, we include open system design. Therefore, co-production can be viewed as an evolving goal that is constantly examined critically, rather than a fixed outcome, to advance social equity and inclusion issues (Brenman and Sanchez, 2012, p. 150; Rosen & Painter, 2019, p. 338). Figure 2. depicts the cyclical nature of co-production, showing how meta-design, co-design, and co-delivery remain in constant flux over time.

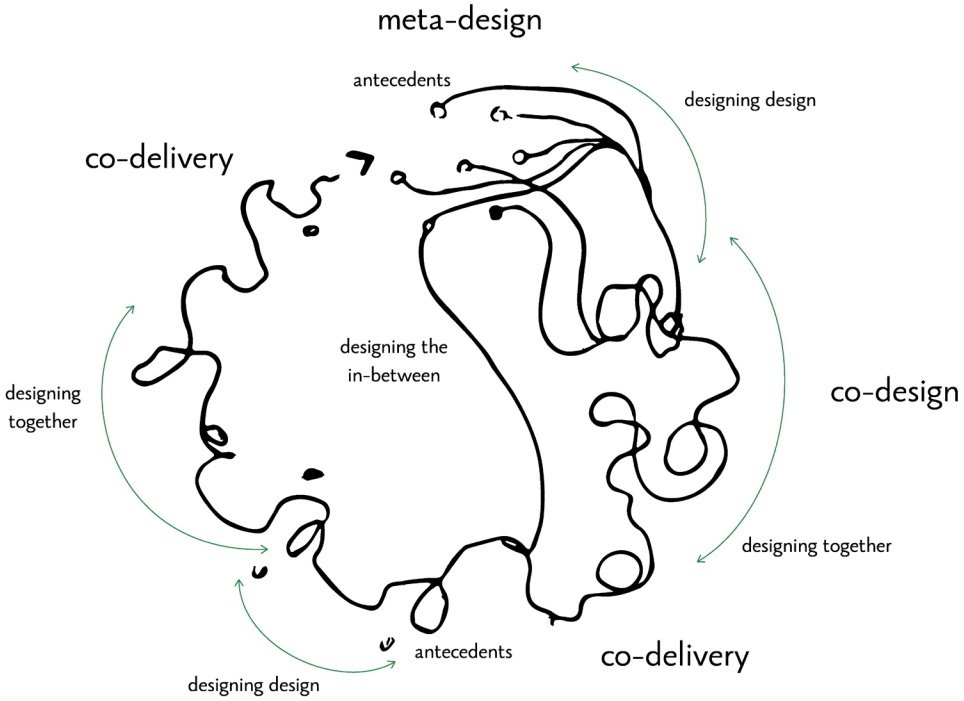

Figure 2. The author's depiction of a co-production cycle, where meta-design, co-design, and co-delivery of services and service systems create a messy entanglement of interactions and processes.

1.3 Co-production in the public service ecosystem

According to Farooqi (2016), "Co-production initiatives require formal structures and processes to involve the local community and third sector to work with the public sector as effective partners". The research further elaborates that catalysts for successful management of co-production include political and bureaucratic commitment in governments and community willingness to engage. While the co-production management literature can be paralleled with collaborative governance and collaborative management literature (O'Leary and Vij, 2012), the latter often fails to distinguish between institutional and individual collaboration (Kapucu et al., 2009). Additionally, collaboration management literature frequently overlooks actor-related activity, such as "the management (motivation, training, and socialisation) of lay actors and professionals and the effects of intensity, size, and scope of co-production on their motivation" (Cepiku et al., 2020, pp. 52-54).

Thus far, the public service ecosystem framework has taken a holistic approach towards the management of complexity in public service design and delivery (Taillard et al., 2016). A public service ecosystem can be understood as a dynamic arrangement where multiple actors and entities interact within a layered system to co-create and manage public services and value (Beirão et al., 2017). This interaction takes place across various levels—micro, meso, and macro—each playing a distinct role in shaping the outcomes and the quality of services delivered to the public, as well as the collective agency (Trischler and Charles, 2019). In public service ecosystems, the focus is on collective efforts and the interdependencies among different stakeholders, including government bodies, private firms, and citizens (Osborne et al., 2022). Additionally, co-design processes expand all the levels of the public service ecosystem. They can contribute to the formation of new institutions. If the institution is formed on a micro level, it will still need to be enabled through alignment with meso- and macro-levels (Huybrechts et al. 2017, pp. 155-156).

Habermehl and Perry (2020, p. 570) suggest more attention should be paid to the way that co-production contexts operate

> *"...so that processes do not reproduce the very challenges that they wish to address. While such different contexts will equally mediate the promise of co-production, for instance, in terms of degrees of decentralisation, extent of neoliberalisation or cultures of policymaking, there are pressures on local authorities world-wide to do more with less in a context of increasingly fragmented governance systems and forms of expertise. This means prioritising the governance, institutional and cultural changes necessary to contribute to the radical possibility of co-production."*

Brix et al. (2020) point out that at the micro level of a public service ecosystem, the group dynamics, co-production capacity and relational capacity, such as trust, are considered contextual variables that affect co-production. At the meso level, the design and management of service delivery, organisational culture, decision-making processes, and also resources, affect the co-production process. At the macro level, the policy context and legislation requirements are considered primary in the co-production process, although the different variables affect other levels and each other as well.

The public service ecosystem is a broad concept encompassing all actors, processes, and interactions in public service provision, from enabling mechanisms to operational aspects (Moore, 1995). Such ecosystems often involve collaborative networks of stakeholders, including government agencies, private entities, non-profits, and community groups, promoting information sharing and joint

problem-solving (Agranoff & McGuire, 2003). Technology is another enabler in these ecosystems, facilitating digital transformation in public services to enhance efficiency and citizen engagement (Cordella & Bonina, 2012). Effective policy and regulatory frameworks in these ecosystems support innovation, collaboration, and citizen-centred services while ensuring accountability (Osborne et al., 2013). Accountability, a key element of co-production, measures community well-being and socioeconomic status. Accountability creates trust in the co-production process and is central to building institutional systems that empower and legitimise collaboration in public service provision (Rocha et al., 2021, p. 8).

However, systemic change advancing inclusivity and participatory processes and also ecosystems can be problematic: Participatory decision-making and co-production can become tyrannical if participating groups are not empowered to challenge funding bodies or decision-makers (Crisp et al., 2013, pp. 254-255). To address inclusion issues in co-production, researchers advocate "…authentic and trusting relationships; the ability of language to challenge or reinforce social exclusion; analysis of power relations in socioeconomic-political-cultural contexts; challenging the status quo; and flexible, adaptable methods and processes" (Crisp et al., 2013, p. 255). Ecosystems that enhance co-production are built on the right skills and tools from the actors to co-produce (Perikangas et al., 2023). Conceptuality, relationality and action-driven approaches have also been suggested as strategies for building organisational learning ecosystems where collaboration, power redistribution and adaptability play key roles (Senge et al., 2007). Moreover, such ecosystems require supportive policy and regulatory frameworks, and other government initiatives to foster innovation and collaboration. (Cordella & Bonina, 2012; Perikangas et al., 2023) In summary, co-production is a complex phenomenon that must be designed to enhance inclusion, support power redistribution, and be seen as legitimate. It can be observed at various levels of a public service ecosystem from different perspectives.

1.4 Aims and research questions

Within the field of administrative sciences, this doctoral research draws a synthesis of ideas from the literature on co-production, public service ecosystems, collaborative design (later, co-design) and meta-design. Public administration and co-production, within that context, can be conceptualised and understood as a design science (Walker, 2011). It operates at the intersection of both the inner (organisational) and outer (environmental) contexts, drawing knowledge from both to inform design and decision-making (Simon, 1996). Effective design within this science aims to shield the internal operations of an organisation from external

fluctuations, ensuring that the relationship between the organisation's core functions and its objectives remains stable despite variations in external conditions. That aim encapsulates the essence of design sciences in managing the interaction between an organisation and its environment to maintain focus on its goals. (Shangraw & Crow, 1989, p. 154) Conceptualised as a design science, public administration is distinct from behavioural sciences like political science, psychology, and economics, which aim to understand and predict human behaviour within various contexts. Unlike these fields, public administration integrates knowledge from them to design, build, and assess institutions and mechanisms that serve the public good. It specifically focuses on creating and evaluating systems that transform collective will and public resources into societal benefits, emphasising the design for collective interests over individual or corporate ones (Frederickson, 1990).

Public administration's unique contribution to design sciences lies in its specialised focus on adapting and assessing public institutions to meet the needs of a changing societal, technical, and physical environment, thereby carving out a niche that is fundamentally about designing for the collective and public interest. (Shangraw & Crow, 1989, p. 156) Design is traditionally understood as the conception and planning of the artificial, in contrast to the natural sciences. Design is a normative form of science that investigates *how things should be* instead of *how things are* (Simon, 1996). Later, design also became an enquiry into practice (*how things might be*) to elucidate the opportunities to create meaningful human experiences (Giaccardi & Fischer 2008, p. 19). Traditional tools for training and boosting citizens' motivation are not applicable in the current complex organisational environments, and those tools should, therefore, be reconceptualised (Cepiku et al., 2022, p. 13). Design is an exploratory process (Manzini, 2015, p. 38), and co-production and different co-creative instances, including "design thinking", emphasising the explorative, collaborative dimensions of design are increasingly applied in public-sector development projects (van Buuren et al., 2020). The increased criticism of co-production and its tendency to create complexity has merit, but the potential behind the co-approach should not be neglected but addressed more systematically because more and more organisations practice co-production in its various forms and will require comprehensive knowledge about its implications for public governance (Sicilia et al., 2016; Sorrentino et al., 2018).

One way to approach the systematisation of co-production is to evaluate its "design" and role as a framework for design practice. This dissertation comprises an overarching thesis and three articles that approach co-production through design. The articles (Sub-studies I–III) constitute the basis for this summary. The

first article (Sub-study I) focuses on the design principles for digital co-production and how they can enhance inclusion. Research conducted during the COVID-19 pandemic exposed the need for digital co-production methods. The study primarily addresses two aspects of inclusion in digital co-production: accessibility and interaction. The second article (Sub-study II) elaborates on how professionals and managers can contribute to the social equity of vulnerable people through the design of collaborative management frameworks. The third article (Sub-study III) explores the co-production of social innovations and the creation of enabling ecosystems for social enterprises. The focus is on how these processes contribute to addressing societal needs and enhancing the efficacy and reach of social enterprises in Finland.

Cepiku et al. (2022) propose a framework in which co-production management plays a key role. The absence of design in the framework is clear, even though the review of literature briefly addresses the role of planning as well as the institutional arrangements in the activation of co-production. As the methodology, support systems and design principles behind co-production are underdeveloped, my research question is:

How can co-production be systematized through design?

I address that question by applying a meta-design framework focused on the design of inclusive, open and adaptive systems (Fischer & Giaccardi, 2006; Fischer & Herrmann, 2011; Menichinelli & Valsecchi, 2016). Alternative system design practices like meta-design and co-configuration have evolved to better accommodate the dynamic nature of various organisational contexts. Meta-design focuses on creating systems that are intentionally under designed at "design time," providing owners of problems with the flexibility to adapt and redesign these systems during "use time," with minimal to no involvement from designers. (Fischer & Scharff, 2000, p. 398) Similarly, co-configuration, rooted in activity theory, emphasises the continuous adaptation of products or services post-initial customisation to meet the changing needs of users and organisations (Botero & Hyysalo 2013, p. 39). The influence of government through policies plays a significant role in shaping the behaviour and design of organisations, highlighting the crucial link between government designs and overall organisational behaviour and structure (Shangraw & Crow 1989, p. 155). By focusing on the role of design in enhancing inclusive co-production, my dissertation directly addresses a critical and often underexplored aspect of public administration (Perikangas & Tuurnas, 2023). This focus aligns with current global priorities in public service to ensure fairness, equity, and accessibility for all, especially marginalised and underserved groups (Young et al., 2023). Design science can be applied on three levels in public

administration: the macro, meso, and micro. Macro-level research focuses on public administration's role within a democratic society, examining foundational issues like privatisation and ethics to evaluate and design systems that align with societal needs and constitutional principles. Meso-level research addresses the structure, function, and design of public organisations and systems, emphasising the need for regular evaluation and redesign to adapt to internal and external changes and the creation of new institutions based on public administration expertise. Micro-level research is concerned with the design and assessment of public management tools that organisations use for performance and adaptation (Shangraw & Crow, 1989, p. 155). This focus enables an examination of the structural and policy environments that either enable or constrain the implementation of inclusive and collaborative public service models.

The structure of the thesis is as follows. In the following chapter, the philosophical and methodological approaches of the study are presented. It also introduces the data collection and process of analysis in the original articles (Sub-studies I-III). In Chapter 3, a summary of the sub-studies is presented, and the original articles are introduced. The articles and their summary comprise the premise of this thesis, laying the ground for the thesis's methodological, empirical, and theoretical choices and contributions. In Chapter 4, I deconstruct the design and implementation processes of co-production on different levels of the public service ecosystem and discuss why certain elements are crucial for design at each level. Lastly, I come to a synthesis in Chapter 5, and propose a systematic approach to the design of co-production. I conclude by discussing the implications for future policymaking and practice in public service design and delivery. The original articles (I–III) can be found in the Appendix.

2 METHODOLOGY

2.1 Philosophical foundation: Process thought and the ontology of becoming

Process philosophy, also referred to as process theory, is a philosophical perspective that emphasises the primacy of becoming, change, and the processes of transformation over static beings or entities. This philosophical approach asserts that the process has priority over the product, both ontologically and epistemically, aligning with the claim that becoming and change are more fundamental than static existence (Rescher, 2000). This perspective asserts that everything in the universe is in a state of constant flux and that reality is fundamentally constituted by interrelated processes. It is a conceptual framework that emphasises the dynamic aspects of phenomena rather than static structures, focusing on how things evolve over time and under varying conditions (Langley et al., 2013). One of the most prominent figures in process philosophy, Alfred Whitehead, views reality as fundamentally constituted by processes rather than static entities. He suggests that everything in the universe is in a state of becoming, emphasising the importance of events and processes over material objects. Whitehead argues that the essence of reality is change and flux, and he highlights the interconnectedness of all things, proposing that entities achieve their characteristics through relationships with other entities. Deleuze's thought of becoming, critique of solid identity and frameworks emphasising the interconnectedness of becoming aligns with Whitehead's line of thought (Deleuze, 1994; Rae, 2014). Later, Barad (2003; 2014) addressed processes and becoming through an agent-materialist approach, emphasising the interconnectedness of the entities, a prerequisite of any agency. Barad asserts that reality is ultimately materialist, and any thought or process cannot be separated from the material: "Matter is not the given, the unchangeable, the bare facts of nature. It is not inanimate, lifeless, eternal. Mattering entails imaginative material explorations of being/nonbeing, creatively regenerative, ongoing trans*/formations" (2024, p. 5).

Process philosophy shifts the focus from static being to dynamic becoming, offering a holistic view of the universe as a web of interrelated processes. It is particularly useful in understanding complex, iterative interactions and developments within systems (Langley et al., 2013). It suggests that the behaviour of systems cannot be fully understood by analysing their parts in isolation, but the system as a whole must be considered (Rescher 2000). When applied to the study of co-production, process theory can offer insights into how collaborative efforts between different stakeholders can affect agency, power distribution and

legitimacy of public services and outcomes (Barad, 2014; Farr, 2018). Process philosophy proposes a relational ontology where entities exist in relation to each other, and their identities are constituted through their relationships and interactions. Himes and Muraca (2018) discuss relational values as distinct from the intrinsic/instrumental value dichotomy, emphasising the importance of specific relationships people hold with also non-human nature. Their findings align with process philosophy's focus on relational ontology and provide insights into the pluralistic valuation of ecosystem services. It stands in contrast to substance-based ontologies that view entities as self-contained and independent (Stout & Staton, 2011).

Stout and Staton (2011) explore the ontological underpinnings of Follett's theory of governance, demonstrating a shared ontology with Whitehead's process philosophy that understands becoming as a relational process. This ontology perceives difference as being related yet unique and sees the purpose of becoming a harmonising difference. Follett's theory of governance is characterised by the facilitation of living together through a relational process of becoming unique individuals, collectively engaged in harmonising differences through interlocking networks, to progress as both individuals and society (Stout & Staton, 2011).

In the context of co-production, process theory can help theorisation in several ways. Rocha et al. (2021, p. 4) suggest that the concept of co-production should be viewed as a continuous, interactive, and creative process rather than as a static product or outcome. Process theory can elucidate the ongoing interactions between public service providers and users, showing how these interactions evolve to address issues of access, quality, and equity in service provision (Djenontin & Meadow, 2018). It provides a framework to analyse the mechanisms through which co-production occurs, such as through iterative loops of co-designing, co-analysing, and co-creating knowledge (Audia et al., 2021). Process theory helps identify factors that facilitate or hinder the co-production process, such as power dynamics, the integration of social and professional cultures, and social equity issues, and how these factors influence the design and outcomes of co-production initiatives (Farr, 2018). Process thought frequently incorporates a focus on experience and subjectivity, suggesting that conscious experience itself is a process and that understanding reality includes acknowledging the perspectives of experiencing subjects, which can be applied in the understanding of organisational life (Hancock and Tyler, 2001).

A process ontological perspective offers a means to understand organisations as dynamics of certain qualities. These qualities can be predetermined and also emerge and change over time as a result of social practices (Langley et al., 2013, p.

5). Process philosophy offers alternative perspectives on traditional strategic management by emphasising change, novelty, and becoming. It challenges the metaphysics of being with a focus on fluid, changing, and complex realities, providing a fresh approach to strategic management theory (Styhre, 2002). The literature provides frameworks for analysing changes, relationships, and processes across various domains, offering insights into the continuous unfolding of phenomena (Langley, 1999; Mackenzie, 2000). Bennett (2023) explores the application of process philosophy by elucidating the relationship between static and process thinking, advocating for a process-oriented mode of thought to address global crises. It argues for encompassing process thinking that includes and transcends static thinking, conducive to ecological and community-oriented decision-making. Djenontin and Meadow (2018) also provide practical methodological guidance that can be adapted to the co-production of public services aimed at social equity. It includes integrating different stakeholders' perspectives, addressing power imbalances, and fostering genuine partnerships that respect and value the contributions of all involved. Process studies enable the study of events as processes: they might focus on individuals or groups over time and report their experiences and the changes to those experiences, and also their actions and interactions (Weingart, 2012). Processes can be studied from micro-level actions to meso- and macro-level events (Druckman, 2003).

The process perspective can guide the design and implementation of co-production projects by identifying the stages where stakeholder engagement is critical, the types of interactions that need to be facilitated, and how to manage the complexities of collaborative work (Lindland, 2021). The tools and methods used in this study, while not exclusively developed for process philosophy, align with its focus on dynamic interactions and the evolution of entities over time. Derek Beach (2016) suggests the following methodological framework for tracing causal mechanisms:

> *"(1) …as systems linking causes and outcomes, (2) unpacked into a series of interlocking parts composed of entities engaging in activities that transfer causal forces from one part to the next, and (3) operationalised by developing predictions of what evidence we should find if each part of the mechanism is present."*

In addition, thematic analysis can help to identify, analyse, and report patterns within data by revealing the processes and dynamics within social phenomena (Langley, 1999). Finally, the design of open systems embraces the concept of evolution in the processes (Li & Zhang, 2020). The systems for co-production ought to be open to continuous improvement and adaptation.

2.2 Data collection and analysis

The current dissertation utilises a qualitative analysis approach, incorporating case studies from the articles and supplementing them with theoretical frameworks from existing literature. Bringing a processual view to the study of co-production offers an opportunity to compare design theories of participation, especially the integrative design approach used in their analysis of the elements of co-production (e.g., Rocha et al., 2021, p. 4). Among co-production studies, Korpela (2017) used a process-based approach to understand the sensemaking in health and welfare organisations. Social entrepreneurship is suited to study through a processual view as the fluidity and ongoing creation of a business are key areas in processual understanding (Hjorth et al., 2015).

Process theory focuses on understanding how and why things evolve over time, making it a suitable framework for analysing co-production in various contexts, including suburban development, healthcare, and criminal sentence planning. Silva et al. (2023) discuss a project that provides technological support for the co-production of public services. Their findings emphasise the collaborative environment that supports co-designing public services and illustrate an approach to tackle co-delivery for sustainable and replicable services. Farr (2018) explores the power dynamics, mechanisms, and impacts within co-production processes, highlighting the complex set of psychological, social, cultural, and institutional interactions involved. Turnhout et al. (2020) review the political and power dimensions of co-production, showing how depoliticisation dynamics in co-production reinforce existing unequal power relations and prevent wider societal transformation. Next, I present the methodological features of the sub-studies, which are also summarised in Table 1.

Table 1. Methodological features of the sub-studies.

	Sub-study I	**Sub-study II**	**Sub-study III**
Selection of the case	A deconstruction of a digital co-production event model and the interactions within it	Depiction of a co-creative process to structure a network that could co-produce tailored services	Construction of a framework for co-production of social innovations and enabling ecosystems
Data collection	Transcribed co-production discussions and video recordings (participants, n=20); meeting notes; other	Participants' answers to questions posed in the SID process (n = 15), interviews with the two	Focus group interviews with social enterprises (n=9) and ministry representatives (n=2)

	Sub-study I	**Sub-study II**	**Sub-study III**
	documentation relating to the sessions	facilitators of the process, and with its key stakeholders and representatives (n=6).	
Data analysis	Abduction: qualitative content analysis to track causalities within the occurrences in co-production events to detect the core elements in the digital co-production process	Abduction; data triangulation; qualitative thematic analysis to propose s method for the design of a collaboratively led system	Abduction; descriptive; qualitative thematic analysis to propose a theoretical framework that builds upon key requirements for an enabling ecosystem of social innovations
Process approach	Micro-level process: building events	Meso-level process: building concepts	Macro-level process: building frameworks

The research approach in Sub-study I is action research, focusing on relationships and interactions in a constant flow. The study employs an interventionist case study method to understand those interactions (Jönsson & Lukka, 2006). The method involves observing and participating in the digital co-production process, with researchers actively engaging as actors in the co-production. The analysis aims to reveal interactions and causalities within the data, using process organisation studies to examine temporal micro-level interactions in digital co-production events, which aid in understanding the role of design in enhancing inclusion (Beach, 2016; Langley & Haridimos, 2011). The data analysed in Sub-study I include meeting notes from planning sessions for the digital co-production process and actual events, other related session documents (e.g., invitations, presentation materials), transcribed co-production discussions, and video recordings of the meetings.

Those data sources provided a comprehensive view of the digital co-production process, interactions during sessions, and the micro-level occurrences that were observed through transcriptions and video analysis over four digital co-production events during the end of 2020 and the beginning of 2021. The chosen method is highly relevant for co-production studies as it underscores the necessity of engaging with not just the service delivery process but also the micro-level actions and decisions made by the participants in individual co-production events. By adopting action research and an interventionist case study approach, the study offers a deep dive into the ongoing interactions and relationships that define digital

co-production. The method focuses on micro-level dynamics and thus enables a nuanced understanding of how design can foster inclusivity within co-production processes, aligning with core principles of process philosophy.

The research approach in Sub-study II is a case study focusing on designing collaborative networks to enhance social equity for short-term prisoners in Finland. It utilises a service integration design (SID) model, a co-creative design process for an interorganisational network aimed at dismantling complexity and enhancing trust and collaboration. The study relates to a two-day workshop constituting an SID process held at the beginning of the short-term prisoners' project by The Finnish Criminal Sanctions Agency in 2021 and continuing into the following year. The study deconstructs the SID process into three themes to be designed: 1) the design of communication and collaboration, 2) the design of roles and decision-making power, and 3) the design of practices and culture. From a processual perspective evaluation of the progress of these three themes could be made. This study involved a thematic analysis of the data. The approach aims to understand how the SID process influenced organisational change and enhanced social equity through the practitioners' and managers' experiences. The case of short-term prisoners' service integration presents a descriptive case study approach, as the case relies on descriptive theory and has a theory-driven focus (Tobin, 2010; Yin, 1993).

Moreover, the case study approach is instrumental (Stake 1995) in that it involves the case being applied as an instrument to investigate something other than the case itself. The data analysed in Sub-study II consist of narrated experiences from participants of the SID process, including answers to questionnaires from SID participants, interviews with facilitators, and interviews with key stakeholders and representatives. This comprehensive data collection aimed to understand how the SID process enhanced professionals' and managers' capacity to affect organisational change. The chosen research approach exemplifies a practical application of co-creative processes to address complex social issues. By focusing on enhancing social equity through collaborative networks, the study demonstrates how co-production – specifically through the SID model – can facilitate organisational change and contribute to social equity.

The research approach and method in Sub-study III focuses on a descriptive case study design, utilising semi-structured thematic focus group interviews conducted with social enterprises in Finland. The study explores how social enterprises produce social innovations and how governments can enable them. The interview data were subjected to thematic analysis to identify the needs, organisation, management, and characteristics of social innovations, and the enablers and

incentives affecting social enterprises. Descriptive research can support the design process by offering insights into how current systems and organisations operate. In a more evaluative sense, descriptive research aids in the improvement of new designs by assessing and analysing the practices and structure of existing systems. That function underscores the importance of descriptive research as a tool for informing and refining the design process through comprehensive evaluation. (Shangraw & Crow, 1989, p. 155)

The data analysed in Sub-study III consist of semi-structured thematic focus group interviews with representatives from social enterprises, other non-profit organisations, and national funding institutions conducted during a research project in Finland in 2022. The interviews aimed to elicit how social innovations are created through co-production in social enterprises and how enabling ecosystems for the creation of social innovations can be enhanced by the government. The chosen research approach showcases a practical examination of co-production processes within social enterprises. It proposes a framework for a co-production process of social innovations enhanced by an enabling ecosystem. The processual view is present in showcasing how certain elements can affect the co-production process. It emphasises the role of collaborative efforts between social enterprises and government entities in fostering social innovations. A thematic analysis of focus group interviews permits an exploration of the dynamics of co-production, which in turn reveals the needs, organisational strategies, and management practices facilitating social innovation.

2.3 Reflections on the research strategy

The methodological choice of Sub-study I aligns with process philosophy by emphasising the dynamic nature of social interactions and the continuous flow of relationships in the context of digital co-production. It reflects process philosophy's focus on becoming, change, and the processes of transformation over static entities. By employing action research and an interventionist case study method, the approach mirrors process philosophy's emphasis on understanding reality through the lens of temporal, evolving processes. This methodology, focused on observing and participating in ongoing interactions, offers insights into the causal relationships and micro-level dynamics that shape the inclusive design of digital co-production, underscoring the interconnectedness and fluidity central to process philosophy.

The methodological choice of Sub-study II contributes to process philosophy by showcasing a practical application of its core principles: change, flow, and

interconnectedness within a social context. By employing the SID model in a co-creative, interorganisational network, the approach embodies process philosophy's emphasis on dynamic interactions and evolving relationships to achieve social equity. Sub-study II demonstrates process philosophy's applicability in real-world scenarios to facilitate organisational change and enhance collaboration. The case study approach provides valuable insights into the dynamics of co-production in fostering trust, dismantling complexity, and enhancing collaboration among diverse stakeholders.

This methodological choice in Sub-study III aligns with process philosophy by emphasising the dynamic, evolving nature of co-production in social enterprises. It explores how social innovations emerge from collaborative efforts, focusing on the processes and interactions that drive innovation. This approach underscores process philosophy's emphasis on becoming, change, and the interconnectedness of entities within systems, offering insights into the organisational and governmental factors that facilitate these transformations. Utilising process theory in studying co-production offers a comprehensive approach to understanding and navigating the complexities involved in creating equitable public services through collaborative efforts. It emphasises the importance of the journey — the processes and interactions — towards achieving equitable outcomes rather than focusing solely on the end products of co-production. This approach offers valuable insights into how enabling ecosystems can be developed to support the co-production of social innovations, highlighting the importance of government involvement and incentives.

At this point, I must address a potential limitation of this study. The data collected from the three cases are not longitudinal, and this study must not be understood as a process-tracing study. Instead, the data helps describe three types of cases where process thought and design theory can be applied to analyse what mechanisms take place in the background of co-production to ensure inclusive processes. To do that, Sub-study I investigates the micro-level of a public service ecosystem. The subject of analysis is people's participation and behaviour within one co-production event and how they can be designed. The subject of Sub-study II is a design framework created for managers and professionals to utilise continuously, positioning it at the meso level of the public service ecosystem. Finally, Sub-study III presents a discussion about what enabling elements are needed for a social innovation ecosystem and what directs their design at the macro level of the public service ecosystem. I use the three different cases for theory building, where the positions of the cases at different levels of a public service ecosystem showcase various design needs to be considered behind co-production processes. Because of the geographical positioning (Finland) and the

limited number of cases, my theory can only work within a specific governance context. Still, this study presents an endeavour that can allow other researchers to test and adapt my framework in other socio-political contexts.

2.4 Research ethics

The study's ethical framework is grounded in a commitment to transparency, fair participation, informed consent, and ongoing reflection on the power dynamics and biases inherent in the research process (Kjellström et al., 2010). This approach was intended to ensure that the research was conducted with integrity and fairness, respecting the autonomy and dignity of all participants. Ethical considerations regarding the informants of the sub-studies were especially important in Sub-study I, where the informants were citizens in potentially vulnerable positions. Appendices showcase the data that complemented the analysis processes in Sub-studies II and III.

2.4.1 Equality and non-discrimination

Recognizing the authoritative position that researchers and other authorities hold, particularly in co-creation and co-production processes, I acknowledge the potential for the research outcomes to be influenced by the agendas of stakeholders who had invested in the research. This poses a risk of bias for especially Sub-studies I and II. To address this, I committed to providing transparent documentation of the co-production processes and their results, as well as the research design and analysis of the cases in each sub-study. Furthermore, I recognize the possible oppressive position I might have inadvertently gained when working with different stakeholder groups. To mitigate this, I actively sought to educate myself about my biases and considered the power dynamics at play when conducting the studies. In Sub-study I, where the interaction occurred with citizens, I engaged in discussions with specific attention to inclusivity in facilitating co-production events. Overall in all sub-studies, particular attention was paid to ensure just participation in co-production events and group interviews by careful facilitation. This meant that if possible, each participant was given equal amount of times to voice their thoughts, and researchers encouraged the quieter participants to voice their thoughts also. In Sub-study I, for participants who had difficulty understanding or communicating written and spoken Finnish, a translator was provided. Written materials shared with those participants were also translated into plain language.

2.4.2 Open science

All sub-studies were published as open access publications. Each sub-study was part of a project that communicated the research results also to wider audiences through blog posts to promote public awareness.

2.4.3 Data management

Informed consent was sought from participants, by introducing the GDPR practice in use as well as acquiring a declaration of consent in the usage of participant data. For the case presented in Sub-study I, a privacy notice was developed to protect participants' personal information. The digital working environment of each sub-study was Microsoft Teams, hosted by University of Vaasa, to preserve the data on private cloud servers. Each researcher was invited as a collaborator through their institution’s account, to ensure secure access. The Data was stored in named folders on Teams platform and the data was not shared with third parties outside the project collaborators. All data was fully anonymised. Even so, each case of the sub-studies had partially insufficient planning of data management, and would have benefitted from systematic, written, data management plans.

3 SUMMARY OF THE ARTICLES AND RESULTS FROM SUB-STUDIES I-III

3.1 Sub-study I: Design for inclusive digital co-production

Sub-study I is set against the backdrop of the COVID-19 pandemic, focusing on digital co-production in community development projects within two residential areas of a Finnish city. The research aims to identify design principles for digital co-production that enhance inclusivity, addressing the challenges faced during the pandemic, which increased the reliance on digital co-production methods. It adopts a qualitative, action research, and interventionist case study approach (Jönsson & Lukka, 2006). The approach facilitates a detailed examination of the micro-level interactions in digital co-production events. The study's analytical framework builds upon literature on co-production, citizen (e-)participation, and design studies, providing a comprehensive view of inclusion in digital co-production.

The study explores inclusion from two perspectives: accessibility and interaction. Accessibility issues are related to the co-creation method, participant selection, and software access, encompassing factors like disabilities, hardware/software quality, internet connectivity, and socioeconomic conditions. Inclusion by interaction focuses on the roles of participants, group dynamics, and interaction with software, highlighting how digital settings can alter traditional co-production practices and potentially reinforce existing power relations. The study identifies various challenges related to inclusion by accessibility, such as limitations in technology, digital divide issues, and the socioeconomic status of participants. It emphasises the importance of designing accessible digital co-production processes. The research notes that interaction dynamics in digital co-production can influence group dynamics and power distribution. Digital co-production can sometimes perpetuate existing power structures, affecting the inclusivity of the process. The study also underscores the importance of skilled facilitation in managing group dynamics and ensuring inclusive participation. Facilitators play a crucial role in balancing power dynamics and enabling the active participation of all members.

The study concludes that a systematic and thoughtful design of digital co-production processes is essential for enhancing inclusion. It advocates for a meta-design approach, considering both accessibility and interaction dynamics. The study also highlights the importance of facilitation in ensuring inclusive

participation and managing group dynamics. The study acknowledges its limitations, including the semi-institutionalised nature of the citizen boards involved and the potential for selection bias. The small focus group sizes and the familiarity of participants within these groups also present challenges for generalising the findings.

The study suggests future research could focus on different facilitation models, include comparisons of various software tools in digital co-production, and extend understanding of digital solutions that accommodate diverse citizen groups. It also emphasises the need for continuous development and support for digital co-production processes. The study contributes to understanding and enhancing inclusivity in digital co-production processes. The chapter underscores the importance of considering both accessibility and interaction dynamics in the design of digital co-production, as well as the pivotal role of facilitation in managing group dynamics and ensuring inclusive participation.

3.2 Sub-study II: Ensuring social equity through service integration design

Sub-study II critically evaluates the implementation and outcomes of a SID model aimed at the creation of integrated service networks for people in vulnerable positions. The study's focus is on conceptualising how a design-led co-creation model can help managers and professionals enhance social equity in public services. It focuses on the design of collaborative management frameworks within complex service systems, particularly addressing the social equity challenges of short-term prisoners in Finland. The SID model represents a co-creative process for public service managers and professionals, facilitating collaborative management. The model was strategically designed to strengthen systemic approaches in public services, emphasising the need for practical frameworks and methods to apply collaborative management and design in real-life contexts.

The core research question explored how a design-led approach can assist managers and professionals in public service systems to recognise and reduce barriers to social equity. The study is contextualised around the service integration for short-term prisoners within Finland's complex social and healthcare service system. The research employs a descriptive and instrumental methodology around a case study approach. That involves qualitative analysis, including data triangulation from narrated experiences of participants in the SID process, reflective interviews with facilitators and key stakeholders, and an evaluation questionnaire from the workshop. The key stages of the SID process are:

1) Preparatory actions for workshops: setting collaborative goals and understanding service-user needs through vignettes,
2) Analysis of the status quo: identifying overlaps, critical transition phases, and key players in service delivery,
3) Target setting: co-creating an ideal collaboration model and defining necessary changes and steps, and
4) Post-workshop outcomes: implementing pilot programmes guided by the workshop's analysis and goals.

The study found that the SID process improved communication and collaboration, helping to understand interconnected roles and responsibilities in service delivery. This change led to a more holistic care approach for service users. The process clarified roles and enhanced decision-making power, promoting user-oriented practices and equitable collaborative management. The SID model illuminated key roles and decision-making impacts, advancing procedural fairness and addressing discrimination and administrative barriers. The study highlights how the SID model advances social equity in public services by fostering collaboration, clarifying roles and responsibilities, and shaping organisational culture and practices. The findings underscore the importance of communication, collaboration, empowerment in decision-making and cultural change in enhancing the quality of services and ensuring equitable access and treatment for vulnerable groups.

The research concludes that the systematic and co-creative process inherent to the SID model effectively enhances managers' and professionals' capacity to enhance social equity in complex public service systems. It demonstrates the model's potential in re-evaluating and improving interorganisational collaboration and decision-making processes. Sub-study II poses a comprehensive analysis of the SID model's contribution to addressing social equity challenges in public service design and management, particularly in the context of short-term prisoners' service integration in Finland. The article not only reflects on the empirical findings of the study but also situates them within broader theoretical discussions on collaborative management, social equity, and public service design.

3.3 Sub-Study III: Co-production of Social Innovations and Enabling Ecosystems for Social Enterprises

Sub-study III offers a comprehensive examination of the co-production of social innovations and the creation of enabling ecosystems for social enterprises. The focus of the study is on how these processes contribute to addressing societal needs and enhancing the efficacy and reach of social enterprises in Finland. The article

discusses the role of social enterprises in Finland in creating social innovations through co-production. The study primarily addresses how social innovations are developed within these enterprises and how governments can foster enabling ecosystems to support these efforts. The study utilises a descriptive case study approach, gathering data through focus group interviews conducted in Finland in 2022. Participants included various social enterprises, other non-profit organisations, and national funding institutions. The research questions are framed as 1) How are social innovations created in social enterprises in Finland, and 2) in which ways could governments strive to build enabling ecosystems for social enterprises?

The study finds that social enterprises in Finland create social innovations through co-production, focusing on service innovation processes, activism, and networking. For an enabling ecosystem, the government must base the system on specific elements: characteristics of stakeholders, co-production methods and tools, and government initiatives. Enabling characteristics include willingness to collaborate, open communication, trust, shared values and goals, the right kinds of incentives, resilience and readiness to adapt to changing circumstances and needs. The study shows how systematic co-production is needed, where co-production methods and tools become enabling elements. Individual and collective acts of co-production are needed for the sustainability of co-production. Based on the study, the characteristics of acts of co-production are digitalisation, service design and governance, networking models, and empowerment of actors. The empowerment of actors was central to social innovation processes, creating new forms of power relations and, thus, contributing to cultural change and societal impact. As a process advancing social innovation, co-production has the potential to break traditional power structures if it is systematic and sustainable. The study identifies public discourse and cultural change, investments, learning resources, and innovation policy are enabling initiatives from the public sector. Digitalization and mission-led policies were other initiatives that could help build enabling ecosystems for co-production.

The study emphasises that social enterprises in Finland face challenges, including weak positioning and prejudice concerning their expertise from traditional businesses and the government. Thus, the study highlights the importance of collaboration, network engagement, and empowerment in the co-production processes by social enterprises. It emphasises the need for an enabling ecosystem that supports the development and scaling of social innovations. This ecosystem should include supportive government initiatives, stakeholder engagement, and effective co-production methods. The research concludes that social enterprises have the potential to contribute to societal needs through social innovations.

However, to maximise their impact, there is a need for supportive ecosystems that facilitate co-production and collaboration. The study advocates government initiatives to support these ecosystems and for a broader understanding of social enterprises' role in public service delivery. The article presents a nuanced understanding of how social enterprises contribute to social innovation through co-production and the necessary conditions for creating supportive ecosystems. It situates the findings within the broader context of social innovation research, offering insights into the challenges and opportunities faced by social enterprises in Finland.

Table 2. Methodological features of the sub-studies.

	Sub-study I	**Sub-study II**	**Sub-study III**
Approach	Empirical, qualitative case study: digital co-production in a suburban development context.	Empirical, qualitative case study: service network co-creation.	Empirical, descriptive case study: enabling ecosystems for social innovations by social enterprises.
Research questions	How can design enhance inclusion in digital co-production?	How can a design-led approach help managers and professionals working in public service systems recognise and reduce barriers to social equity?	1) How are social innovations created in social enterprises in Finland, 2) in which ways could governments strive to build enabling ecosystems for social enterprises?
Theoretical discussion	Digital co-production and co-production (Lember 2018; Lember et al., 2019) inclusion in co-production (Eriksson, 2022; Makey et al., 2023); accessibility and interaction in co-production (Lai & Widmar 2021; Lawton Henry et al., 2010; Lazar et al., 2015); design and meta-design (Fung, 2003; Giaccardi & Fischer, 2008; Nabatchi, 2012; Hyysalo et al. 2019; Wu et al., 2022)	Social equity (Brenman & Sanchez, 2012; Frederickson, 2015; Jos, 2016); complex service systems (Kickert & Koppenjan, 1997; Tuurnas et al., 2015; Rossi & Tuurnas 2021); collaborative management and its design (Kapucu et al., 2009; O'Leary & Vij, 2012; Kapucu et al., 2014; Svara & Brunet, 2020; Lægreid & Rykkja, 2022)	Social innovations and social enterprises (Phillips et al., 2015; Windrum et al., 2016; Houtbeckers, 2018; Defourny & Nyssens, 2021; Evers & Ewert, 2021; Lillberg et al., 2023); co-production of social innovations (Phillips et al., 2015; Ayob et al., 2016; Steen et al., 2018; Crossen-White et al., 2022); social enterprise ecosystems and enabling ecosystems (Biggeri et al., 2018; Hazenberg et al., 2018; Mazzucato, 2019)

	Sub-study I	**Sub-study II**	**Sub-study III**
Results	A systematically designed digital co-production process can help sustain and improve inclusion. Understanding visible and hidden power structures and the different roles of participants is essential for inclusion. Power dynamics can be a defining factor when designing a co-production process, and underlying power relations may trigger controversial outcomes for equal participation.	A design-led approach to the management of collaborative networks operates by applying collaborative management in practice, enhancing the different dimensions of social equity, which are quality of services, access to services, and procedural fairness of services. This model can help public service professionals to recognise and reduce barriers to social equity when they design and implement services.	Social innovations in SEs are typically co-produced. Co-production of services can be seen as a social innovation. Governments could strive to build enabling ecosystems for social innovations by SEs through acquiring needed skills to co-produce, utilising co-production methods and tools, and organisation of government initiatives that support SEs.

3.4 Results: The roles of design in the sub-studies

In Sub-study I, I argued that designing inclusive (digital) platforms for co-production directly impacts how public services are delivered and experienced at the organisational level. It emphasises the need for collaborative design processes that involve various organisational actors, aligning with the meso level's focus on organisational networks and service processes (Osborne et al., 2022). The research advocates for digital platforms that facilitate effective co-production, contributing to service-level innovation and improvement in public service ecosystems through meta-design that offers an inclusive framework for co-production. By promoting inclusive design, the study addresses the individual experiences of service users, ensuring that digital co-production tools are accessible and user-friendly.

Botero and Hyysalo (2013) discuss design strategies that facilitate collaborative design with communities. The authors draw on the concept of "designing for practices," which emphasises that the main goal of design should be to influence changes in everyday practices. These practices are understood to be part of systems affected by external developments beyond the scope of design. Accordingly, the scope of design extends beyond tangible objects to include immaterial aspects such as social arrangements, norms, and the organisation of daily routines. This approach recognises that design can play a significant role in shaping the fabric of

community life and its evolving needs. The emphasis on inclusivity and interaction dynamics in digital settings contributes to individual-level value creation, as users can more effectively integrate these services into their lives, aligning with the concept of value-in-use at the micro level (Osborne et al., 2022). Meta-design, in the context of Sub-study I, involves creating and adjusting the frameworks, methods, and tools that underpin the co-production process. That includes decisions on the digital platforms used, the design of interaction protocols, and the overall structure of the co-production activities. The focus on meta-design highlights the importance of deliberate, thoughtful design choices in creating digital co-production processes that are accessible to diverse participants and facilitate active and equitable interaction among them.

Sub-study II highlights the role of design in enhancing social equity through a structured, collaborative, and systemic approach in public service management. Co-design is inherently complex and can embody both positive and negative dynamics. While the "co" in co-design suggests a collaborative, inclusive approach to design activities, it can also lead to conflicts and competition among participants. This duality highlights the nuanced nature of co-design processes, encompassing both cooperation and potential challenges among the stakeholders involved (Del Gaudio et al., 2020, p. 202). The SID model demonstrates how a design-led approach can systematically solve complex problems by building collaborative management structures through deliberation. Design serves as a key facilitator in creating and managing collaborative management, improving communication and collaboration, and ensuring that the management structures and processes align with the goal of promoting social equity in public services. Co-design causes a shift in the traditional dynamics of power and influence within the design process. It reduces the designer's ability to direct and control the process while simultaneously enhancing the participants' capacity to influence and transform it. This change reflects a more collaborative and democratic approach to design, where participants play a more significant and active role in shaping outcomes (Del Gaudio et al., 2020, p. 203), thus making the *design* of the design process visible (Giaccardi, 2008).

The study contributes to theoretical discussions on social equity in complex service systems by proposing a method for collaboratively designed systems. The co-design process serves as a dynamic arena where power dynamics among all actors play a critical role, shaped by underlying mechanisms and structures of power. Firstly, the process inherently allows for the possibility of actors influencing each other, leading to certain participants potentially gaining more control or influence within the design process, sometimes without the designer's awareness or understanding of how it is occurring. Secondly, the direction of the design process

can be influenced or even obstructed to favour certain actors when their power predominates in the synthesis of power dynamics, affecting the outcome of the transformative process, as observed in the first case mentioned. Lastly, the nature of co-design processes inherently goes beyond the control of designers to strictly decide who gets to participate, often extending beyond the initially invited participants. This finding underscores the complexity and uncontrollability of participation and power relations within co-design efforts (Del Gaudio et al. 2020, 214). This approach is vital for ensuring that public service systems are adaptable, inclusive, and responsive to the needs of diverse groups, particularly vulnerable populations (Perikangas et al., 2023b).

Sub-study III underscores the need for systematic co-production for social innovation, emphasising the significance of public sector initiatives, digitalization, and mission-led innovation policies in building supportive ecosystems for SEs, but also the need for enabling characteristics and co-production tools and methods. The design in this context refers to the intentional creation and structuring of processes, and environments that enable co-production. Effective management of complexity in societies may require several modes of decision coordination: planning, administering, regulating, and governing. Planning involves charting out a decision path that accounts for various alternatives and outcomes. Administration relies on organisational design to coordinate decisions effectively, illustrating how plans and organisations complement each other. Regulation sets the legal bounds within which decisions can be made, while governance focuses on making collective choices. (Lin & Lai, 2022, p. 464) Design plays a critical role in this context as it involves creating and nurturing these enabling ecosystems and systematically designing co-production processes that are inclusive, empowering, and respond to societal needs. Design in the framework proposed by Sub-study III is about shaping the broader ecosystem in which co-produced services operate, ensuring that they are adaptable, collaborative, and impactful. Systematic co-production goes beyond top-down or market-oriented public service provision, emphasising inclusive and collective ideas that are generated in the daily lives of the actors (Pestoff & Hulgård, 2015).

Table 3. Summary of the roles of design and how they facilitate systematic approach in the articles.

	Role of design	**The common ground in all the design approaches**
Sub-study I	Offer an inclusive framework for co-production through meta-design	All approaches involve designing not the product or service but the process and tools that enable co-production, ensuring quality and quantity of outcomes. The design of individual co-production sessions, including the choice of co-creation methods, is vital. Involves designing methods and tools that encourage participation, support reflection, and facilitate discussion Design tools help align professional and organisational roles and goals and clarify necessary structural procedures at both horizontal and vertical levels. It enables the co-production/ delivery of public services equitably. The design considers not only the immediate needs of citizens but also the long-term societal impact of co-production. It involves creating networks, platforms, and ecosystems that support small actors and enable big operations, integrating individual services to offer stronger support systems, and employing digitalization as a mediator of social innovation. (Svara & Brunet, 2020; Newth & Woods, 2014; Lindsay et al., 2018). Meta design is an analytical approach that can be applied in all sub-studies.
Sub-study II	Facilitate co-creation of collaborative management.	
Sub-study III	Structure processes and environments for enabling ecosystems	

4 META-DESIGN: THE "BACKEND" OF CO-PRODUCTION

The previous chapter outlined the results from Sub-studies I–III, highlighting the varied roles of design and its commonality across different levels of public service ecosystems. This chapter explores meta-design as a foundational element for co-production processes within these ecosystems. Meta design functions behind the scenes of service design and delivery and thus serves as an analytical tool to examine design processes and co-production levels systematically. Here, I discuss its potential role in shaping co-production by methodically analysing the design processes and various co-production tiers within a public service ecosystem. I argue that meta-design is a crucial component in evaluating co-production processes. Within a public service ecosystem, co-production represents an open system that can be analysed, designed, and facilitated at every organisational level (Fischer and Scharff, 2000). Consequently, meta-design functions as an invaluable tool, enabling the exploration of co-production design requirements and understanding the interdependencies at each level of the ecosystem.

Meta design has been connected to the debate calling for a democratisation of the creative process, placing improvisation and evolution in the centre of design (Giaccardi & Fischer 2008, p. 19). Recent literature on meta-design addresses designing for social inclusion (Rossi, 2023), road infrastructure (Liu et al., 2022) and fair AI (Lundin et al., 2024), for instance. Radnor et al. (2014, 404) argue that since services need to be designed to consider the relationship between the service provider and the service user, and experience design is a critical factor in public service provision, governing the process of public service delivery through co-production is a key to more inclusion and effectiveness in public service provision. The co-production process is inherently about design and service delivery activities within an open system, that can allow the different actors to contribute in a meaningful way. It is different from closed systems, which typically draw a distinct line between the creation and use of the system. Designing with a closed system allows only for modifications that are already determined by the designers, meaning that "…closed systems lack the ability to evolve so that they can be modified to address unanticipated issues, they will inevitably be unable to cope with change" (Fischer and Scharff, 2000, pp. 396-397).

Tuurnas (2015) reports on how public service professionals cope with co-production as a means to produce and develop public services with lay actors. She highlights the need for new organisational structures and managerial tools to effectively engage actors in co-production, suggesting that enhancing professionals' agency requires both institutional support and the development of competencies in collaborative work. Brinkman et al. (2023) addressed this

challenge by analysing the fit of design thinking within the public sector context. They discovered that design thinking presents challenges to traditional public organisations due to its demand for learning from actors and organisations in ways that are not easily applicable. Therefore, methodologically employing design thinking by integrating it into organisational structures and cultures is more practical. Fischer and Scharff (2000, 398) argue the need for meta-design as follows: "…design problems in the real world require open systems that users can modify and evolve". Meta design offers an arena for co-production design since it admits that peoples' needs and tasks, as well as situations and behaviours, cannot be fully anticipated because they are ill-defined and change over time (Giaccardi, 2005, pp. 346-347).

Meta design is characterised by its emphasis on designing collaborative design processes that are distributed over time and across different levels of interaction with the environment, contrasting with user-centred and participatory design approaches that primarily concentrate on the design phase (Giaccardi & Fischer 2008, p. 21). Three principles can be connected to a meta-design process: adaptability, openness, and user empowerment, and they are each considered crucial for the successful co-creation and co-evolution of socio-technical systems (Fischer, 2007; Fischer & Giaccardi, 2006; Fischer and Herrmann, 2011). Adaptability in meta-design is crucial to accommodate unforeseen changes and needs that arise during system use. In public service co-production, the process can be turbulent and unpredictable, which highlights a need for adaptable design systems underpinning it. Fischer and Giaccardi (2006) emphasised that in a world that cannot be fully predicted, the challenge of design is not to eliminate emergence but to make it an opportunity for creative and adequate solutions. Meta design extends traditional system design to include co-adaptive processes between users and systems. It turns users into co-designers who can address mismatches between their needs and the system's capabilities (Giaccardi, 2005).

Openness in meta-design refers to creating frameworks that allow all stakeholders to contribute to the development and evolution of the system (Fischer & Scharff, 2000). Fischer and Herrmann (2011) discuss how the meta-design of socio-technical systems integrates technical and social structures and processes, emphasising objectives, techniques, and processes that empower users to act as designers. This principle is vital for fostering a culture of participation and ensuring that systems are not only technically efficient but also socially relevant and adaptable. Meta design facilitates co-production by enabling all actors, including employees, to design and develop services directly (Fogli & Provenza, 2012). In co-production events, effective facilitation requires orchestrating interaction and balancing free speech with structured discussion (Perikangas &

Tuurnas, 2023). The design of individual co-production sessions, including the choice of co-creation methods, is vital. That process involves choosing tools that encourage participation, support reflection, and facilitate discussion (Kjellström, 2020).

In addition, user empowerment is a vital principle for meta-design since it focuses on empowering users to engage in design and development activities, enabling them to address their own problems and innovate. Fischer (2007) articulates that meta-design supports users as active contributors, allowing them to extend the functionality and content of existing systems. By redistributing control in the design process, meta-design ensures that systems can adapt to users' evolving needs, thereby enhancing creativity and problem-solving capabilities among all stakeholders. Meta-design strategies that empower users to contribute ideas and participate actively in the design process facilitate a shift from an expert-driven to a user-driven design process that can enhance service innovation. (Trischler et al., 2019). This approach involves designing not just the service but also the process and tools that enable co-production (Perikangas & Tuurnas, 2023). Consequently, meta-design can facilitate more balanced relational processes by managing power dynamics and the need for critical reflective practice and supporting ongoing dialogue and reflection among stakeholders (Farr, 2018).

Co-production is based on the ongoing negotiation and redesign of services and systems; hence, engagement of the users is needed in both the problem-framing and the problem-solving that occurs in the systems (Needham, 2008). Giaccardi (2005, p. 346) considers certain elements crucial for meta-design: 1) a focus on the design of general structures and processes rather than on fixed contents, 2) the need for fluid rather than prescriptive methods and techniques, 3) the call for environments that can evolve, 4) the necessity of relational settings that allow systems to be based on a mutual and open process of affecting and being affected. Respectively, Moniz et al. (2023) found mechanisms that can enhance co-production, including 1) Creating an open and safe space for sharing ideas, 2) teaching participants to articulate their experiences and perspectives in a way that was engaging and meaningful, and 3) Involvement of service providers in listening and action, making them compelled to take action to implement improvements to the system. A challenge in creating evolving platforms for co-production through meta-design is ensuring that systems are designed to encourage and support continuous user engagement beyond the initial design phase, adapting to users' evolving needs and contributions (Fischer & Giaccardi, 2006).

Meta design can be seen as a framework for integrating user experiences and contributions into service development processes (Radnor et al., 2014). For meta-

design to effectively facilitate creativity and evolution in co-production, it is crucial to identify and address the various obstacles that may impede this process. These challenges include resistance to change due to the learning efforts required and potential uncertainties, the issue of premature standardisation in technology that may stifle innovation, the complications posed by existing systems and legacy infrastructure within organisations, and the disparity between those who benefit from evolutionary changes and those who must undertake the work to make these changes happen. A thorough understanding of these obstacles, along with the broader organisational, social, cultural, and ethical contexts they exist within, is essential for devising effective solutions and promoting the advancement of meta-design practices. (Giaccardi & Fischer, 2008, p. 30). Meta design marks a significant cultural shift in the field of design, moving from traditional planning-oriented approaches to more dynamic, 'seeding' strategies that foster collaborative and transformational design practices (Fischer & Scharff, 2000). This shift facilitates new forms of human interaction and nurtures the expansion of creative processes. It acts not only as a methodology for designing interactive systems but also as a cultural strategy that integrates various domains. These insights point to the broader organisational changes needed to facilitate agency, power redistribution and legitimacy in co-production efforts. Meta design as a design approach to co-production may offer public managers an opportunity to systematise the process and ensure the processes are inclusive and fit the context they are aimed at.

4.1 Construction of agency in co-production through meta-design at the micro-level

By highlighting the co-creative efforts of public service professionals and users, researchers suggest that agency is created through shared experiences and the mutual exchange of knowledge and skills, leading to more effective public service delivery (Blijleven & van Hulst, 2021; Pestoff, 2018). Fischer et al. (2017) argue that meta-design can transform cultures by empowering all people to become active contributors in personally meaningful activities, thereby enhancing agency in co-production processes. At the micro level of a public service ecosystem, the design of a co-production process should focus on the primary interactions of and between the participants. Meta-design is central to implementing an inclusive co-production process, which requires consideration of the co-creation methods and tools, the selection of the participants, access to participation, interaction in participation, and group dynamics and roles in the process. Selecting the right tools and methods for co-production should be done by keeping in mind the context of co-production, the skills and the characteristics of the participants, and

the aim of co-production: what do the initiators of co-production want to achieve by arranging opportunities for co-design and co-production. Perikangas and Tuurnas (2023) provide an example of a meta-design approach at the micro level. They depict the design of digital co-production events, focusing on the meta-design principles behind co-production to ensure inclusion. By focusing on various ways to empower the actors, the design contributes to enhancing the actors' agency in the process. Accordingly, if we wish to create open systems that empower the users to interact within them, we need to consider that the design of such systems is rarely about the tools of design but about what design principles should be utilised to construct the users' agency within the system. In this sub-chapter, I elaborate on why participation, accessibility and interaction, and group dynamics are central meta-design principles for co-production at the micro level.

4.1.1 Participation

When designing for co-production, barriers to participation should be considered first. Pedersen (2020) introduces a framework for staging negotiation spaces in collaborative design projects, advocating that designers facilitate negotiation among stakeholders. This approach aims to balance power dynamics by ensuring all voices are heard and considered in the design process, thereby fostering equitable participation. While co-design is intended to be an inclusive and democratic approach, it inherently carries risks that can challenge the very dynamics of participatory democracy it aims to foster (Del Gaudio et al., 2020, p. 203). By supporting users as active contributors, meta-design redistributes control in the design process, enhancing users' agency (Fischer, 2007). The selection of participants is an important factor in the co-production process because the designers need to create strategies for inclusive and diverse participant recruitment (Perikangas & Tuurnas, 2023). The designer of co-production must consider who is participating in it and how it will manifest. According to Cepiku et al. (2022, p. 10), "selection rules affect [the] representativeness of lay actors and professionals", leading to potential selection bias. Selection bias means that certain groups of people are intuitively invited to co-production while others are not (Fledderus & Honingh, 2016).

Selection bias can occur in invitations to a co-production event, resulting as exclusion of especially the most vulnerable (Makey et al. 2023, p. 3). Exclusion can also manifest in a meeting between a professional and a customer of a public service. For instance, if a professional cannot accept their customer's opinion and talks over that customer in a meeting with the customer and other professionals responsible for the service process, that service process is jeopardised by a lack of

agency on the customer's side (Perikangas, Määttä et al., 2023). Today, a considerable portion of co-production is also technologically assisted (Alam, 2021; Jukić et al., 2019; Perikangas & Tuurnas, 2023). That makes the digital divide a factor that must be addressed while designing for co-production, especially if the desire is to have open co-production systems. People have insufficient access to relevant technology: The designer of co-production must consider if people have the necessary hardware, software licences, and even an internet connection well before co-production is established (Kjellström, 2020; Perikangas & Tuurnas, 2023). Research shows that strong self-efficacy among actors can encourage them to become involved in co-production (Parrado et al., 2013; Cepiku et al., 2022).

4.1.2 Accessibility and interaction

Agency can also be created by enhancing accessibility and interaction during digital co-production. Meta-design can address access to participation by ensuring that a co-production platform is designed for accessibility and barriers to entry are removed. Ease of involvement and the tasks to be performed being easy make lay actors more willing co-producers (Cepiku et al., 2022, p. 10). The construction of virtual spaces is one operational dimension for meta-design: information can be seen as an environment that enhances users' perceptual and cognitive capabilities (Giaccardi, 2005, p. 346). Interaction in participation is a crucial point during co-production events, and that often involves complex negotiations and role adaptations among participants, depending on the aims of co-production (Perikangas & Tuurnas, 2023). Open dialogue within co-production design and delivery can enhance participants' agency by building identity and self-worth. This process involves several themes that address the authenticity and safety of participants, consider individual needs, and facilitate backstage learning (Stephens et al., 2024, pp. 121-122, 128). Technological mediation can also help to grow peoples' agency in interaction by enhancing communication, negotiation of identity, and interaction with institutional and personal networks (Al Zidjaly, 2015). These dynamics can challenge traditional notions of agency by distributing agency across different actors and actions within the co-production process, demonstrating the fluid and negotiated nature of agency. The practices between the participants are still largely improvised, untrained and unrecognised. (Fenwick, 2012) This approach positions meta-design as a potential strategy for ensuring that digital co-production processes are inclusive, effectively engaging a broad range of participants in meaningful ways, thus creating agency in the process.

4.1.3 Group dynamics

Achieving a balance in group dynamics in digital co-production requires deliberate meeting design utilising tools that foster relational spaces, trust, and participatory environments (Perikangas & Tuurnas, 2023). Effective facilitation of shared power involves designing digital meetings that emphasise interactive exercises over traditional presentations and discussions, encouraging participants to engage in shared experiences and collaborative problem-solving (Kjellström 2020, 225). A structured participation process can include the creation of a safe environment, the skilling of the participants, and ensuring more equitable relationships between the actors. These can be designed within the co-production system. (Cepiku et al., 2022. p. 10) Thus, success in group dynamics depends not only on the use of these tools but also on adopting an inclusive attitude that values each participant and supports the group collectively. Implementation of new models and technologies also poses the challenge of ensuring that they support rather than hinder co-production, particularly in terms of maintaining meaningful involvement of citizens and managing the unintended consequences of group interaction and independent citizen-driven service design and delivery (Schultze & Bhappu, 2005).

Increased agency through co-production activities can alter power dynamics by equipping individuals and groups with the knowledge, skills, and confidence needed to engage effectively with traditional power holders. (Cuomo, 2022) There is a need for careful management of group dynamics, bridging of diverse knowledge systems, continuous user engagement, and thoughtful incorporation of technology. Addressing these challenges is crucial for realising the full potential of meta-design in facilitating inclusive co-production processes. Group identity building as part of socialisation can enhance co-production (Cepiku et al., 2022, p. 11). Cavallone and Palumbo (2019) posit the same: “public managers should strive to establish a clearer and more direct link between initiatives intended to involve citizens in public service co-production and interventions aimed at boosting the perception of territorial identity”. Such activity strengthens the overall engagement and commitment to the community, thus enhancing agency in co-production.

Organisational socialisation has a positive impact on co-production, clarification of roles, capacity building, and feeling of ownership (Cepiku et al., 2022, p. 7). Accordingly, meta-design contributes to creating agency in co-production by empowering users to actively participate in the design process, influencing both the development and evolution of systems and services. Lay actors can be empowered to co-produce (Steen, 2021), but co-production itself can empower lay

actors (Cepiku et al., 2022, p. 11). Overall, the role of meta-design on the micro level is a crucial factor in creating inclusive digital co-production processes that enhance the agency of all actors involved. Through the concept of meta-design, I aim to illuminate the systemic nature of design in co-production, arguing for a bottom-up approach that focuses on the micro-level designs of the co-production process to enhance inclusivity. There is a need for careful management of group dynamics, bridging of diverse knowledge systems, continuous user engagement, and thoughtful incorporation of technology. Realising the full potential of meta-design in facilitating co-production processes relies on addressing these challenges. Table 4 summarises the principles of meta-design for the micro-level and how they can enhance actors' agency.

Table 4. Summary of the roles of design and how they facilitate systematic approach in the articles.

Principles for meta-design at the micro level	Agency construction by principles of meta-design
Reducing barriers to participation	Tackling the digital divide and selection bias can be done through meta-design. By systematically designing co-production processes that consider these issues, meta-design helps to ensure that barriers to participation are minimised, allowing for a more equitable distribution of power and agency among actors.
Enhancing Accessibility and Interaction	Meta design focuses on enhancing accessibility and interaction within co-production processes. By designing systems that are accessible to a wide range of participants and facilitate meaningful interaction, meta-design helps to ensure that all actors can contribute to the co-production process, thereby enhancing their sense of agency.
Managing Group Dynamics	Meta design plays a role in balancing power relations and group dynamics within co-production events. By creating systems and processes that account for the dynamics of interaction among participants, meta-design can help to ensure that all voices are heard and valued, which is essential for creating agency among actors.

4.2 Power redistribution at the meso level of co-production

Co-production is bound to create complexity as it aims to empower people in the joint production of public services. Complexity leads to multiple actors and undefined power dynamics within a co-design process. Consequently, it can be difficult to predict who will participate and how everyone's input will specifically

impact the overall design outcome (Del Gaudio et al., 2020). Farr (2018) studied co-design processes as part of co-production by focusing on how the processes can alter power relations to foster more user-centred public services. Farr explores how facilitating, managing, and coordinating a complex set of psychological, social, cultural, and institutional interactions can challenge existing power relations and promote innovation and improvement in public services. The meta-design approach, when applied at the meso level within a public service ecosystem, enables the creation of systems on both horizontal and vertical levels of organising.

The SID model, introduced by Perikangas, Määttä and Tuurnas (2023), serves as a practical application of such an approach, embodying a co-creative process designed to enhance social equity in complex service system settings, with a particular focus on the just and fair treatment of vulnerable groups. The process involves analysing existing conditions among various organisational actors and levels, setting shared objectives, crafting an ideal collaboration model, and defining steps to achieve these goals. Its design aims to simplify complexity and dismantle unnecessary power structures, fostering trust and cooperation within the network. Furthermore, SID introduces an open method for the creation of social and technical infrastructures that accommodate emergent realities, demonstrating how meta-design facilitates adaptive and inclusive public service systems through power redistribution. In this sub-chapter, I elaborate on why clarifying roles and responsibilities, fostering communication and collaboration, and facilitating structural changes are the meta-design principles to be considered at the meso level.

4.2.1 Clarifying Roles and Responsibilities

In a sociomaterial system, the roles of human and non-human actors must be distinguishable; otherwise, co-production risks failing (Polzer & Goncharenko, 2022). The situation illustrates the principle of meta-design. Collaborative networks that operate at the meso level of public service ecosystems can be understood as institutions where patterns of social interactions form the rules of the "game". The rules of the game in each institution are not necessarily fully clear or known to the actors of the institution, and shared rules are typically absent in games that cover more than one network (Klijn & Koppenjan, 2006, p. 144). The alignment and the clarity of the different actors' roles must be clear to ensure a power distribution that enhances co-production (Perikangas et al., 2023a). Overlapping roles and responsibilities in organisations can hinder co-production, particularly impeding the nurturing of social equity and disproportionately affecting the most vulnerable (Brunet, 2011; Määttä, 2012; Tuurnas et al., 2015).

Governance and management networks are formed through strategic action, rooted in the mutual recognition among actors of the need to exchange or pool resources, knowledge, and ideas to address challenging issues. The primary driving force behind the increase in governance networks has been the widespread realisation that no single actor has all the necessary capabilities to tackle the complex and multifaceted problems present at various levels of society, from local to global (Perikangas et al., 2023a). That realisation acknowledges the importance of collective action and collaboration through governance networks to effectively solve such wicked problems (Sørensen and Torfing, 2018, p. 304). Research on governance networks highlights the complex dynamics within those networks. First, the interdependency among actors within a network is identified as the primary factor initiating and sustaining networks, with actors' strategies being influenced by their perceptions or framing of the world, leading to diverse views on problems and solutions. (Kapucu et al., 2014, p. 4; Lægreid & Rykkja, 2022). Second, due to these interdependencies and varying perceptions, complex patterns of interaction and negotiation arise in problem-solving, policy implementation, and service delivery, making outcomes the result of multiple actors' interactions rather than the actions of a single entity (Klijn & Koppenjan, 2012, p. 5).

Meta design can help address such complexity through facilitative tools that help actors make sense of their roles and responsibilities in a system. For instance, Fougères and Ospina (2007) introduced an artificial actor, the mediator, in a cooperative design system to support and coordinate the activities of human and software agents. The mediator facilitates conflict resolution and task management, serving as a mechanism for redistributing power by ensuring that all actors can contribute equally to the design process. In addition, service integration tools, such as SID, have been designed to help deliberate over and clarify the actors' roles and responsibilities, contributing to equal power distribution among actors (Perikangas, Määttä & Tuurnas, 2023).

4.2.2 Fostering communication and collaboration

Early scholars, such as Youngblood, understood meta-design as a strategy of context creation, an approach to integrate systems and set actions to create environments in which people may cultivate "creative conversations". Accordingly, meta-design can be understood as the kind of design that defines the conditions for the process of interaction (Giaccardi 2005, p. 343). Design is a key facilitator in creating and managing collaborative management because it provides frameworks, processes, and tools that enhance communication, coordination, and problem-solving among team members. Process modelling in collaborative design

environments makes collaboration explicit, enhancing group participants' collaboration. An environment that supports facilitators, experts and managers in planning their work, improves awareness about the "learning-how-to-learn" process and facilitates collaborative management (Santoro et al., 2005).

For instance, urban living labs (ULLs) are increasingly recognised as a policy tool that integrates the co-production approach with urban experimentation. By employing horizontal governance models and exploring new policy avenues, ULLs facilitate the implementation of innovative strategies through a shared, collaborative process. Co-production within ULLs serves as a methodology that enables effective participation in the co-design, co-implementation, and co-evaluation of various circularity experiments. (Cuomo, 2022, 15) Collaborative planning through networks can result in "network power," a collaborative force that enables adaptation and learning in the face of rapid change and fragmentation, indicating systemic changes in organisational approaches to planning and decision-making (Booher & Innes, 2002). Approaching networks systematically means informal networks within organisations can be made visible, supporting strategic collaboration that can lead to significant changes in how organisations operate and how culture is developed through formalising informal relationships (Cross et al., 2002). Thus, collaborative networks have the potential to drive systemic changes in organisational practices and culture by enhancing collaboration, learning, and innovation across different organisational levels and boundaries.

Farr (2018) underscores the importance of reflective practice and dialogue in facilitating more equitable relational processes. Meta-design can contribute to power (re)-distribution among actors in co-production processes through open system creation: The SID model introduced in the study by Perikangas, Määttä and Tuurnas (2023) serves as a co-creative process for public service managers and professionals within complex service system settings. Actors can challenge and potentially transform existing power structures through deliberate actions or tactics that oppose the current distribution of power. These actions can either exert counter-power within the framework established by dominant forces or create new dynamics and relationships that enable strategic opposition to prevailing power mechanisms.

A network meta-design process should work as both a systematic design process and in the background of everyday work in organisations: the actors can rely on the principles of the network created through interorganisational workshops but can also refine their work collaboratively by coming together and using the open design system as a platform for network redesign (Perikangas et al., 2023). Co-

production and co-design practices involve facilitating, managing, and coordinating a complex set of interactions that can challenge existing power relations (Farr, 2018). The promotion of critical reflective practice and dialogue, diversity and interdependence, and collaborative approaches can facilitate equal relational processes among participants (Booher & Innes, 2002), enhancing their sense of agency in public service design and delivery. The finding underscores the importance of equitable power distribution in creating inclusion within co-production processes. Sancino and Jacklin-Jarvis (2016) elaborated on interorganisational collaboration and co-production, distinguishing the two by noting that if the service user is not part of the process, it is not co-production. I agree with this notion, but I also stress the importance of remembering the multifaceted nature of co-production. Co-production can be designed and enabled by interorganisational collaboration, and it is thus important to include it in the discussion concerning the use of co-production (Perikangas et al., 2023).

4.2.3 Facilitating structural changes

Srivastava and Banaji (2011) explored the influence of culture and cognition on collaborative networks within organisations, demonstrating how norms emphasising cross-boundary collaboration can shape individual and collective behaviour, potentially leading to changes in organisational practices and culture. Leadership has been valued at both the site and network levels as crucial for fostering a culture of collaboration and improving network performance, thereby contributing to systemic changes in organisational practices and culture (Baker et al., 2011). However, design is needed to open service systems to wider networks, creating shared knowledge and structure and thereby enhancing the social equity of relevant service-user groups (Svara & Brunet, 2020). Different design patterns can be used to provide a structured approach to facilitate effective and efficient collaboration, making design serve as a key facilitator of collaborative management (Perikangas, Määttä et al. 2023). Collaborative management approach can be used to create structural changes in networked service systems (Eriksson et al., 2020). Adapting to challenges is a key in collaborative management design. Experienced facilitators can adapt their designs to accommodate surprises (Kolfschoten et al., 2007).

Inter-skill collaboration and the coordination of knowledge-sharing and interactions can focus on defining a common repository for knowledge management in collaborative settings (Gzara & Lombard, 2004). Accordingly, design facilitates collaborative management by structuring the collaboration process, sharing facilitation techniques, adapting to challenges, coordinating

technology-driven collaborations, and managing knowledge and conflicts. Research on power dynamics within co-production and co-design processes acknowledges the complexity of managing and coordinating psychological, social, cultural, and institutional interactions (Farr, 2018). Meta-design's emphasis on critical reflective practice and dialogue is essential for facilitating equal relational processes, thus influencing power distribution within these collaborative settings. By jointly articulating and appropriating the *infrastructuring* and *commoning* approaches, meta-design can foster new operational modes and perspectives within public organisations, thereby enhancing co-production processes. This approach necessitates involving individuals across organisational levels to minimise potential conflicts and promote a more distributed power structure (Seravalli et al., 2017). While co-production is encouraged for knowledge generation, power dynamics operating between institutions can also impede its effectiveness (Vincent et al., 2020). These dynamics may not be manageable solely through meta-design if they are deeply entrenched in the institutional frameworks.

Openness to new ways of working and interaction with stakeholders may enhance co-production (Cepiku et al., 2022, p. 10) Through careful system design, it is possible to enhance the power redistribution between actors in co-production, thereby promoting a more inclusive and equitable collaborative environment. Co-production has an important role in achieving systemic change as it can promote a shift towards greater social innovation and participation (Galende-Sánchez & Sorman, 2021). In addition, depoliticisation dynamics in co-production can reinforce unequal power relations and prevent wider societal transformation. Accordingly, research suggests re-politicising co-production to allow for pluralism and contestation of knowledge, which is essential for systemic solutions (Turnhout et al., 2002). Meta-design focuses on developing socio-technical environments that enable users to become co-designers at use time, emphasising the importance of ongoing collaboration and adaptation. This approach inherently supports the redistribution of design power by framing what are each actor's roles and responsibilities in the co-production processes, how are communication and collaboration implemented, and how structural changes are managed.

By supporting users as active contributors who can extend the functionality and content of existing systems, meta-design redistributes control from traditional designers to the users themselves. That outcome not only democratises the design process but also ensures that systems evolve in ways that directly benefit the users (Fischer, 2007). Even then, there is a risk that co-production will fail owing to weak facilitation or institutional rules preventing equal power distribution (Turnhout et al., 2020; Williams et al., 2016). Table 5 illustrates the principles of meta-design

while designing for co-production at the meso level and how that affects the power redistribution between actors.

Table 5. Principles of meta-design on the meso level and how they can spur power (re)-distribution.

Principles of meta-design for meso level	Power (re)-distribution by principles of meta-design
Clarifying roles and responsibilities	The SID process clarifies roles and responsibilities among actors, enhancing the distribution of decision-making power. That ensures that professionals who are directly involved in service delivery have sufficient autonomy and authority to make impactful decisions, thereby redistributing power more equitably among actors.
Fostering communication and collaboration	Design of a model that helps in planning and establishing structured communication channels and collaboration practices within and across organisations. By enhancing interorganisational communication, organisational silos can be broken, and a more integrated and cooperative approach to public service delivery can be fostered, redistributing power by ensuring all stakeholders have a voice in the process.
Facilitating structural changes	Through the SID model, meta-design supports structural changes required for collaborative management and service integration. By offering a platform to design collaborative networks that address systemic challenges, the model redistributes power by shifting from hierarchical to more networked and egalitarian structures.

4.3 Legitimacy building at the macro level: a quest for enabling ecosystems

Supportive institutional frameworks and government initiatives are important to successful collaborative public service models. Government policies and institutional backing can enable or hinder the co-production of social innovations and effective service delivery (Perikangas, Kostilainen et al., 2023). Biljohn and Lues (2020) found that social innovation (SI) enables citizens to participate meaningfully in local governance through co-production. Government policies in different local contexts influence citizen participation in service delivery, emphasising the importance of government support and resources for co-production processes. Policies are developed in complex networks that define complex societies. The networks can be analysed through efforts to improve strategic behaviour within networks and the quality of interaction between the

actors. In contrast, the networks can be analysed by referring to the changes to existing networks and the creation of new ones, as they are not static (Klijn & Koppenjan, 2006, p. 142).

Institutionalised co-production can be seen as an adaptation to political and logistical circumstances in certain contexts. Governmental structures and policies can significantly impact the formation and effectiveness of co-production arrangements (Joshi & Moore, 2004). Osborne, Radnor, and Strokosch (2016) conceptualised co-production within public and service management theories, suggesting that a robust theoretical understanding of co-production is crucial for evidence-based policymaking and its implementation. The finding underscores the need for government policies to be informed by comprehensive models of co-production for enhancing public service delivery. State support and capacity, along with trust-building processes, are crucial for institutionalising co-production practices, highlighting the enabling role of government in co-production initiatives (Campomori & Casula, 2022). Co-production also interacts with personalisation policies and is influenced by government initiatives, emphasising the importance of policy frameworks in shaping co-production outcomes (Flemig & Osborne, 2019). Government policies and institutional frameworks significantly influence the potential for co-production in public service delivery and SI. By providing the necessary support, resources, and conducive policy environments, governments can facilitate meaningful citizen participation and the successful implementation of co-production initiatives. Huybrechts et al. (2017) explore how political-institutional contexts frame co-design processes and participatory practices, arguing that a focus on the micro-political scale of fieldwork without considering institutional framing processes undermines the potential of co-design and participatory practices as arenas for critique and political change.

The meta-design approach can also be perceived on the macro level of public service ecosystems when we study the collaboration between non-profit organisations, national funding institutions, and government efforts to enhance enabling ecosystems for the creation of social innovations (Perikangas et al., 2023). Eugene Thacker proposed that meta-design "must allow a social mode of existence that is flexible and based on mutual processes of affecting and being affected rather than on a juridical model" (Giaccardi, 2005, p. 344). Government services should be adaptable to changing citizen needs. The design of such models should consider not only the immediate needs of citizens but also the long-term societal impact of co-production (Sorrentino et al., 2018). Design techniques can involve managing complex sets of interactions. Although they can challenge existing power relations, they require continuous critical reflective practice to deliver equal processes and institute changes across individual, community, and

organisational levels (Farr, 2018). The study by Perikangas, Kostilainen, and Kainulainen (2023) acknowledges the multifaceted challenges that non-profit and non-state actors face, such as financial sustainability, the need for a supportive ecosystem, and the lack of clear understanding and systematic policies from the government. This macro-level perspective highlights the necessity of an institutional approach that involves the government, non-profits, communities, and funding institutions to foster an environment conducive to social innovation.

4.3.1 Capacity building

Change of institutions is often an aim but is hard to manage in practice. Changing institutions is especially hard when they have interaction processes where the actors have already developed ways to reconcile their conflicting interests. New design arrangements have little effect on that institutional capital:

> *"Institutions thus often provide a source of stability and comprise a social infrastructure formed by the interaction of actors in the past. This means not only that they are useful for determining behaviour and provide a handle for cooperation but also that they are difficult to change because they carry the bias of previous interactions, views, and power relations." (Klijn & Koppenjan 2006, 142-143).*

Meta-design principles can guide the development of educational programmes and collaborative platforms that build the capacity of individuals and organisations to engage in co-production. By empowering stakeholders with the skills, knowledge, and tools necessary for effective collaboration, meta-design can enhance the legitimacy of co-production processes. Empowered participants are more likely to contribute meaningful insights and innovations, leading to more legitimate public services. (Perikangas, Määttä & Tuurnas, 2023)

Training to co-produce enhances the confidence and abilities, as well as role clarity of actors (Cepiku et al., 2022, p.11). Meta-design can be utilised in several ways to build those capabilities. Meta design can foster collaborative ecosystems by designing frameworks that support interaction between stakeholders, including government entities, social enterprises, private businesses, and the community. By establishing open platforms for collaboration, meta-design can encourage the sharing of resources, knowledge, and skills necessary for addressing complex social challenges (OECD, 2021). Meta design can support the development of adaptive governance models on an institutional level that are responsive to the changing needs of society and the innovation landscape. By designing policies and institutional frameworks that are flexible and open to experimentation, meta-

design can help create a conducive environment for SI to flourish (Mazzucato, 2019).

Meta design works in the realm of the culture of practice instead of simply offering methodologies or practical frameworks (Giaccardi, 2005). Meta design offers a way to build public service capacity to adapt to the evolving needs of citizens. That is possible because it supports capacity building on an institutional level to enable continuous innovation and collaboration, thus addressing systemic challenges and striving for a societal impact (Fischer, 2007). Meta-design can play a critical role in building the capacities of organisations and communities to engage in SI, and by developing education programmes, workshops, and collaborative platforms, meta-design can enhance the skills and knowledge needed for effective co-production and social entrepreneurship (Satalkina & Steiner, 2022). Utilising meta-design on the institutional/macro level involves creating a supportive infrastructure that fosters collaboration, empowers stakeholders through co-production, facilitates systemic change, and builds capacity for social innovation.

4.3.2 Co-production policies

Co-production can be enhanced by regulatory actions (Cepiku et al., 2022, p. 10). Co-production policies should consider the organisational diversity, dialogue and facilitation mechanisms to enhance sustainable co-production (Pestoff, 2014). Supporting flexible, service-specific, and organisation-specific approaches for co-production, rather than seeking one-size-fits-all solutions, is essential (Howlett et al., 2017). To create such policies, governments should understand demographics, community characteristics, government outreach, and self-efficacy as correlates of co-production (Parrado et al., 2013). Fung (2006) presents a framework for understanding public participation in governance, emphasising the dimensions of who participates, how they communicate and make decisions and the linkage between discussions and public action. Such a framework may assist in creating policies that address issues such as legitimacy, justice, and effective administration. Meta design can facilitate the creation of platforms and frameworks that make the co-production process accessible and understandable to all participants. This transparency is crucial for building trust among stakeholders and the public, thereby enhancing the perceived legitimacy of co-produced services (Farr, 2018; Radnor et al., 2014)

Meta design can also contribute to systemic change by focusing on the design of systems that enable the co-co-production of public services and outcomes. Because it considers the interdependencies within social, economic, and environmental systems, meta-design can help in rethinking traditional approaches to public

service delivery and social welfare (Carayannis et al., 2021). Meta-design can also focus on the development of digital platforms that support inclusive and accessible co-production. Such platforms can bridge the gap between different actors in the SI ecosystem, enabling the sharing of ideas, resources, and best practices on a larger scale (Paananen et al., 2021). A challenge is that co-production in an open system may be hindered by the formal requirements of planning and decision-making, thus preventing change (Petterson et al., 2018).

According to Sørensen and Torfing (2018), networks may have a democratizing impact on the political system through three main dimensions: enhanced participation in policymaking, a supplementary criterion for political inclusion, and empowerment of sub-elites. Governance networks extend citizen and stakeholder participation beyond traditional electoral processes to directly involve them in the formulation, implementation, and adjustment of public policies. This participatory expansion on the output side of the political system tends to increase government responsiveness to public preferences, complementing institutions of representative democracy that operate primarily on the input side. The creation of well-being ecosystems can benefit from user-led mechanisms for co-production; thus, policymakers have a key role in encouraging the creation of systems that enable people to navigate and innovate within systems (Mason et al., 2007).

Meta design enables the development of adaptive governance structures that can respond to changing societal needs and challenges. This flexibility is essential for the legitimacy of public service co-production, as it demonstrates the ability of public institutions to evolve and innovate in response to a community's needs. Adaptive governance, supported by meta-design, signals a commitment to continuous improvement and responsiveness, key factors in legitimising co-production efforts. (Sicilia et al., 2016; Laitinen et al., 2017) Meta design contributes to systemic change by integrating social, economic, and environmental considerations into the design of public services. This systemic approach to innovation ensures that co-produced services are sustainable and useful in addressing complex societal issues. The focus on systemic change enhances the legitimacy of co-production by demonstrating its potential to contribute to long-term social and environmental well-being (Collina et al., 2020).

4.3.3 Government initiatives

Bovaird et al. (2017) stated, "Co-production is not simply 'user empowerment'. The 'co' element requires the active engagement of public service professionals in co-production". The statement reinforces the importance of various government initiatives that should take place in support of co-production and its legitimacy.

Creating transparent processes is one way to ensure the legitimacy of co-production. It allows all stakeholders to understand how decisions are made and how they can influence the processes involved (Bovaird & Loeffler, 2012). The incorporation of accountability mechanisms helps people understand who is responsible for what outcomes (Brandsen & Honigh, 2016). Ensuring inclusivity in participation is another principle that can advance the perceived legitimacy of co-production (Nabatchi et al., 2017). Structures that promote ongoing dialogue and allow for deliberation among stakeholders can strengthen legitimacy by ensuring that co-production is based on consensus and mutual understanding (Ansell and Gash, 2008). Additionally, designing for flexibility and adaptation can be central when aiming for the legitimacy of co-production: Institutions that are designed to be flexible and adaptable can respond to changing needs and circumstances, which enhances their legitimacy by demonstrating responsiveness and resilience (Torfing et al., 2012). In contrast, integrating evaluation and feedback mechanisms demonstrates a commitment to learning and improvement by the institutions (Voorberg et al., 2015). Meta-design can be used to help create such conditions. The elements of meta-design, adaptability, openness, and user empowerment work through an open system agenda to support the need to design for various government initiatives.

Closely aligned with the meta-design approach is institutional design, which can be interpreted as interventions that aim at breaking through the dominant governance practices (Klijn & Koppenjan, 2006, p. 142). Alexander (2006) defines institutional design as involved in all intentional institutional transformations, highlighting its importance in planning for sustainable development through governance, coordination, and agency. Joshi and Moore (2004) define institutionalised co-production as a long-term relationship between state agencies and organised groups of citizens for the provision of public services. At the macro level, co-production design should focus on the principal elements that can support enabling ecosystems for SI through co-production. These initiatives include public discourse and cultural change, investments, learning resources, and innovation policy. Such governmental actions can establish the necessary conditions for the co-production of social innovations and ultimately contribute to societal well-being. Through enabling ecosystems that promote collaboration, support, and alignment with societal needs, meta-design contributes to the legitimacy of co-production activities, empowering non-governmental organisations to make meaningful contributions to social well-being. (Perikangas, Kostilainen et al., 2023) Table 6 collates the principles of meta-design for the macro-level and how they can enhance the legitimacy of co-production.

Table 6. Principles of meta-design for the macro-level and their connection to enhancing the legitimacy of co-production.

Principles of meta-design for macro-level	Legitimacy by principles of meta-design
Capacity building	Willingness to collaborate, open communication, trust, shared goals, right incentives, and resilience (Perikangas, Kostilainen et al., 2023). Political leaders can enhance input and output legitimacy by involving local citizens in the co-creation of solutions that promote local well-being. This approach builds trust and creates joint ownership over innovative solutions, demonstrating how meta-design can support the formation of arenas for the co-creation of public value outcomes (Torfing et al., 2021).
Co-production policies	Consideration of organisational diversity, dialogue, and facilitation mechanisms to maintain a long-term commitment to co-production (Pestoff, 2014). Support for flexible, service-specific, and organisation-specific approaches to co-production rather than seeking one-size-fits-all solutions (Howlett et al., 2017). Understand the demographics, community characteristics, government outreach, and self-efficacy as correlates of citizen co-production (Parrado et al., 2013)
Government Initiatives	A key factor in building enabling ecosystems for co-production. These initiatives include public discourse and cultural change, investments, learning resources, and innovation policy. Such governmental actions can establish the necessary conditions for the co-production of social innovation and ultimately contribute to societal well-being. (Perikangas,, Kostilainen et al., 2023).

5 BECOMING PUBLIC SERVICE ECOSYSTEMS: PROCESS THOUGHT AND META-DESIGN AS ANALYTICAL TOOLS FOR CO-PRODUCTION

To fully understand the potential of meta-design in the design of co-production, I return to process theory, specifically the ontology of becoming proposed by Deleuze (Weinbaum, 2014). Traditional user-centred and participatory design approaches have largely focused on the initial phase of design, neglecting the potential for systems to evolve as living entities over time. In contrast, the meta-design approach emphasises creating open-ended solution spaces rather than fixed solutions, aiming to establish social and technical infrastructures that empower users to engage with and adapt to emergent realities creatively. Meta design can be seen as a distinct design philosophy that fosters new forms of collaborative design by distributing design activities across different times and levels of environmental interaction, enabling users to actively participate in the ongoing design and evolution of systems (Giaccardi & Fischer, 2008, pp. 19-20). Designing for communities and their practitioners introduces increased complexity and a more fluid temporal structure because design represents just one of several developmental lines influencing potential outcomes (Irwin, 2015). The interactions between co-design engagement, the community of practice, and the relevant infrastructure dynamically impact each other. Consequently, strategic considerations such as the focal point (practice or design) and the timing of co-design activities become crucial, alongside other factors like methods, norms, tools, power, and participant roles (Botero & Hyysalo, 2013, p. 51)

Sociomaterial processes, such as co-production, are flows that connect multiprofessional knowledge and the lay actors' knowledge to generate learning through practices (Paananen, 2020). Meta design emphasises the importance of "design before the design," where the initial 'preparatory activities' are not merely preliminary steps but are central to and drive the entire design process. This approach shifts the focus towards early-stage engagements and interactions between actors while particularly embracing the concept of becoming, as the systems are continually changing and adapting to users' needs (Del Gaudio et al., 2020, p. 217). Meta-design marks a significant cultural shift in the field of design, moving from traditional planning-oriented approaches to more dynamic, 'seeding' strategies that foster collaborative and transformational design practices (Fischer & Scharff, 2000). This shift facilitates new forms of human interaction and nurtures the expansion of creative processes. Meta design is seen as a convergence of art and design, reflecting new ways of understanding and developing interactive environments. It acts not only as a methodology for designing interactive systems but also as a cultural strategy that integrates various domains. (Giaccardi, 2005,

pp. 347-348). Fisk et al. (2019) argue for systemic social innovation to co-create a future where humans and all life thrive. They introduce the concept of "transformative collaboration" central to facilitating systemic social innovation and propose a multilevel model for accelerating systems change. Many communities of practice, along with cities and municipalities, are capable of engaging in sustained collaborative and open design initiatives (Fassi and Manzini, 2021; Snow et al., 2016).

Adopting an open design agenda enables the systematic incorporation of evolutionary redesigns across various levels of practice (Perikangas, Määttä et al., 2023). In a public service ecosystem, meta-design needs to address the specific attributes that define the process of becoming an agency, of power redistribution and of legitimacy. I will next explicate their relationships to the ontology of becoming, referring to Weinbaum (2014).

Dynamic Agency

At the micro level, an individual's forms of agency can be understood as processes of becoming that are continuously shaped by their interactions and the changing conditions around them. The ontology of becoming emphasises this fluidity and continual transformation, which aligns with the idea that agency is not a fixed attribute but something that evolves and is manifested through actions and decisions in response to changing circumstances:

> *"In contrast to former metaphysical approaches that are based on ideal essences or categorical species as the basis of identity, Deleuze's philosophy of becoming is a philosophy of individuals. It defines the individual as a structure of relations…"*
>
> *And "…the individual, be it a phenomenon, a quality, a concept, a person or a species, is inseparable from individuation—the process of its becoming and from its pre-individual dimension. (Weinbaum, 2014, p. 306)*

Based on that, I regard this "individuation", the process of becoming, as consisting of the following principles that a meta-designer should consider while designing for co-production:

1) reducing barriers to participation,
2) enhancing accessibility and interaction, and
3) managing group dynamics. All these principles support the ongoing formation of agency.

Power Dynamics and Structures

At the meso level, the ontology of becoming interacts with the structures of power within public service systems. That indicates that power is not static but is constantly being redistributed and renegotiated through ongoing interactions and processes. This perspective allows for a more nuanced understanding of power dynamics, seeing them as fluid and subject to change rather than as rigid and fixed. Furthermore, power redistribution can be born only on top of or in relation to the agencies of the actors, thus making those two attributes interdependent. As Weinbaum explains:

> *"The actual—the phenomenal aspect of existence…is populated by clear individual identities and the distinct characteristics and qualities that define them. The process of becoming is the process by which the former are incarnated in the latter. The actual is an effect—a product of becoming."*

When considered from a meta-design perspective, the negotiation of power by agents involves the following principles:

1) clarifying roles and responsibilities,
2) fostering communication and collaboration, and
3) facilitating structural changes.

Legitimacy as a continuous process

At the macro level, the legitimacy of co-production in public service ecosystems emerges from the ongoing processes that define and redefine norms, values, and expectations. The ontology of becoming supports the view that legitimacy is not merely an established status but a condition that is continually produced and reproduced through social interactions and the collective recognition of authority. Legitimacy is produced on top of and as a result of the identification of agency and power redistribution, forming a *multiplicity*, which is defined as follows:

> *"A multiplicity is an abstract topography of change underlying the dynamics of actual phenomena". "Multiplicity is not a mere mathematical representation or an idea about material reality; neither is it external to material reality in the sense that it is conceived in the mind of a thinking agent". (Weinbaum, 2014, p. 299)*

Legitimacy as a multiplicity can be construed via the meta-design approach as comprising:

1) capacity building,
2) co-production policy design, and

3) design of government initiatives.

To summarise, the ontology of becoming provides a framework that helps to understand a complex system, such as a public service ecosystem, as something dynamic and evolving. This perspective challenges traditional views of static entities and fixed structures, proposing instead a more fluid understanding of how agency, power, and legitimacy are constructed and reconstructed over time and at different levels. The complete spectrum of possibilities and constraints for co-design, including the spatial and temporal dimensions of design opportunities, become fully apparent only through an evolutionary process (Botero & Hyysalo, 2013, p. 46). The approach underscores the importance of embracing change and flexibility in design practices to fully realise the potential of co-design initiatives (Botero et al., 2010). This notion aligns with the meta-design theories of complex adaptive systems (Fischer & Scharff, 2000; Giaccardi, 2008) and extends the practical understanding of governance and public administration, suggesting that adaptability and responsiveness are key to their effectiveness and legitimacy.

Accordingly, process philosophy, emphasising the dynamic and ever-changing nature of reality, offers a foundational perspective that can be used to influence meta-design methodologies. While meta-design extends the design environment to an ongoing design process, inherently recognising the evolving nature of user needs and contexts, from a process-philosophy viewpoint, this aligns with the idea that entities (including designed artefacts and systems) are not static but are continually becoming, influenced by interactions with their environment (Giaccardi & Nicenboim, 2023). A process-philosophy-informed meta-design approach combining those elements can provide a framework for creating adaptable, evolving design systems that address the continuous development and changing needs of the users and their environments. This approach can be inherently analytical, employing a dynamic, process-oriented lens to evaluate and refine design methodologies and outcomes continually. Figure 3 presents a framework for that.

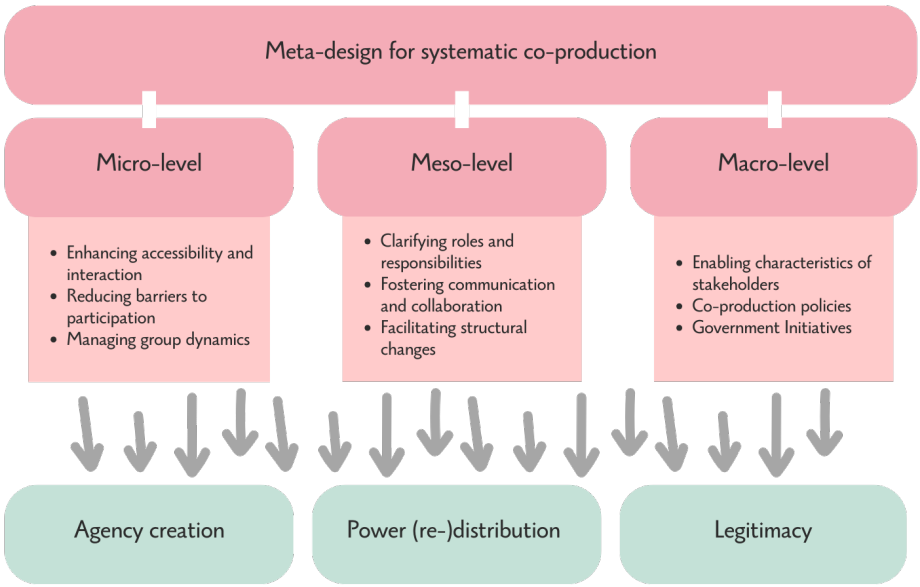

Figure 3. Design for systematic co-production in a public service ecosystem.

Thus, meta-design allows for the creation of adaptive sociomaterial spaces and processes that can enhance co-production (Fischer & Herrmann, 2011). An adaptive space and sociomaterial relations between human and non-human actors facilitate creating multi-professional knowledge, thus facilitating performance in the process. However, sociomaterial relations can also hinder connections between the knowledge of different professions if the relationship is discontinued (Paananen, 2020). Such design engagement is increasingly relevant and can significantly contribute to the growing cooperative and commons movements. By applying these collaborative and open design approaches to various projects within communities, it is possible to address some of the main challenges associated with co-production strategies, notably in terms of platform development and commitment (Botero & Hyysalo, 2013, p. 51). In co-production, the challenges centre on the issues of activation and sustaining co-production in an inclusive manner (Loeffler, 2021). Engaging in systematic co-production practices therefore requires background processes that contribute to the agency, power redistribution and legitimacy of such processes.

Merely adopting co-production and co-design approaches does not automatically ensure that partnerships between different actors will be equitable. It is therefore essential to treat ongoing critical reflection and dialogue as vital components to cultivate empowering relational dynamics. These practices are crucial for challenging and potentially transforming existing power imbalances and entrenched practices within the framework of co-production in service

development and delivery (Farr, 2018, p. 640). While tools such as SID (Perikangas, Määttä et al., 2023) are valuable for sustaining co-design across various stages and levels, from concept to iterations, they are insufficient alone to foster the necessary levels of learning and trust building among actors. Ensuring users have a sense of ownership, understanding their needs and desires, and designing across multiple levels of practice and technology demands enduring and flexible design strategies. A balanced approach that involves designing for people, with people, and allowing them to independently navigate their challenges is crucial. This approach should be complemented by efforts to secure and mobilise resources and tools, as well as to establish conditions that support a genuinely collaborative design space (Botero & Hyysalo, 2013, p. 50).

In many real-world processes of institutional change, both unintentional evolutionary processes and intentional processes of design are at work, and it will often be difficult to cleanly separate the two (Kingston & Caballero, 2009, p. 153). I argue that it is not necessary to separate the two as they are both sub-processes of the process of becoming in a public service ecosystem context. The important thing is to distinguish between the different mechanisms that can be used to design and manage these processes. Project organisational structure and support systems can drive improvement of the design setup in the initial phases of development projects (Serna et al., 2011). Senge et al. (2007) illustrate how successful collaborative efforts build a functional "learning ecology" for systemic change. The finding underlines the importance of systematic co-production. Co-production is recognised as a complex social phenomenon that is not governed by a straightforward cause-effect relationship (Brix et al., 2020; Smith, 2021). There has long been a need for research on the outcomes of co-production processes, suggesting that understanding them could lead to more effective systemic solutions for societal challenges (Acar et al., 2023; Cepiku et al., 2022; Voorberg et al., 2014). It is suggested that evaluating co-production outcomes requires a specific programme theory to reduce complexity and enable empirical investigation, as well as consideration of the specific context (Brix et al., 2020; McMullin, 2023). While focusing on the outcomes is important, the focus on the antecedents, activation and sustaining of co-production must be evaluated at the same time as the other parts of an iterative loop where the outcomes of co-production define the design of the new or renewed processes (Audia et al., 2021).

Co-design's role in engaging with public realms and services has evolved from an activist tradition to focus on democratic participation and adjusting to new social and economic contexts. This adaptation indicates its potential to impact long-term societal structures (Huybrechts et al., 2017). Designers can adopt a tactical approach to support counter-movements aimed at challenging established power

structures. Doing so requires deliberately applying tactics grounded in a thorough analysis of local power dynamics and strategies for engagement. The design process, therefore, becomes an iterative and flexible endeavour, continuously reshaped in response to local developments. By proactively seeking opportunities to act against hegemonic powers and understanding where these powers are exerted, designers are better positioned to identify and respond to instances of anti-democratic forces. This approach positions the designer as an active participant in promoting democratic resilience through design (Del Gaudio et al., 2020, p. 217). Farr (2018, p. 628) presents an important but less studied aspect that merits further elaboration in co-production research: "Co-design techniques acknowledge the emotional aspects of experience, which can be used to facilitate connections between diverse groups of people". Meta design as experience design is another avenue for studies in the future.

In summary, meta-design contributes to power (re-)distribution in co-production by empowering users to actively participate in design processes, fostering collaborative design practices, and addressing the complexities of power dynamics within co-production and co-design settings. By experimenting with unexplored policy paths and alternative strategies, meta-design-informed co-production processes challenge existing power structures that may be resistant to change (Cuomo, 2022). The implementation of co-design dynamics can inadvertently create opportunities for the exercise of power in ways that designers might not anticipate. These opportunities can then be exploited by individuals or groups who may act against the values of participatory democracy, thus presenting a potential challenge to the democratic intentions underlying co-design practices (Del Gaudio et al., 2020, p. 202). Blaschke et al. (2019) discussed the design of digital value co-creation networks through a service-dominant logic lens, emphasising the role of system design in enabling resource integration and value co-creation among diverse actors. This approach facilitates a redistribution of power by allowing various stakeholders to contribute and share in the creation of value. Achieving that requires meta-design. Meta-design can be seen as a distinct design philosophy that nurtures new forms of collaborative design by distributing design activities across different times and levels of environmental interaction, enabling users to actively participate in the ongoing design and evolution of systems (Giaccardi & Fischer, 2008, pp. 19-20).

The research question for this dissertation was, "How can co-production be systematised through design?" Being systematic does not mean we can predict the results of our endeavours, but it allows us to assign certain principles for our work. My study has shown that one way to systematise co-production through design is to assume co-production is an open system that needs to be designed. Meta design

is a design approach that permits consideration of the design behind the scenes of a co-production process. Accordingly, a systematic way to approach co-production is to assign certain principles to the design of the process. I have shown that if we assume that co-production would best fit the aim of increasing inclusion and social equity within public service ecosystems, we must assign design principles at each level of the ecosystem. The determination of the principles emerges from the discussion herein, where I showed that enhancing certain values at each level of a public service ecosystem is more desirable, and certain design principles affect them more than others despite the levels and values being interconnected. Overall, meta-design can provide an analytical approach to understanding the nature of co-production in the public service ecosystem. It considers how actors can redistribute power within co-production processes and ensure that public service delivery is more equitable, inclusive, and responsive to the needs of all citizens, particularly the most vulnerable (Perikangas, Määttä et al., 2023). Adopting a meta-design approach, characterised by inclusive design principles, could foster long-term democratic scenarios more effectively than traditional, formal, and linear design processes.

6 CONCLUSION

The main contribution of this research lies in theory-building through the application of an interpretive, phenomenon-driven approach. The design-science approach to public administration studies, linked with process theory, has provided fertile ground for exploring the complexities of co-production and its planning requirements. I have analysed the design of co-production through the lens of meta-design, assigning design principles to each level of a public service ecosystem. This analysis demonstrates that these principles are crucial for enabling agency at the micro level, redistributing power at the meso level, and enhancing legitimacy at the macro level. The most significant theoretical contribution resides in co-production research through the introduction of a rather underexplored research avenue and paradigm: the design of co-production. This paradigm first recognises co-production as a complex phenomenon aimed at creating open systems. Second, it acknowledges the necessity of design prior to design time in co-production. Third, it calls for co-production research as a form of design science, wherein the processes of becoming are key elements of interest.

The current research first elaborated on the empirical, methodological, and theoretical foundations and relationships of its sub-studies (Sub-studies I–III). Secondly, it introduced various principles that can be applied to meta-design at the micro-, meso-and macro-levels of a public service ecosystem. Thirdly, the study proposed a theoretical framework for the concept of meta-design in co-production. Empirically, the dissertation focused on—but was not limited to—the development of public services through co-production methodology in the Finnish context.

Accordingly, the current dissertation is devoted to advancing our understanding of the process approach and design science within co-production research, where a key challenge has been enhancing our comprehension of co-production processes, their design, and management. Aiming to provide a cohesive depiction of how co-production can be systematically enhanced by design, this doctoral research has focused on the meta-design underlying and inherent in a co-production process. By exploring the multiplicity of processes in open systems that co-production can create, I have developed a theoretical approach to deconstructing the preliminary design principles for co-production at various levels of public service ecosystems. As different values gain prominence at different levels, the concept of inclusion – a critical element of co-production – can be approached through various mechanisms at each level. The ultimate challenge in achieving inclusion is recognising it as an ongoing process of becoming; one that is never simple and never complete.

Further, meta-design represents a paradigm shift among design studies in terms of how systems and solutions are conceptualised and developed. Unlike traditional approaches that aim to create complete systems before they are used, meta-design can help to establish socio-technical environments that empower users to collectively create solutions to identified needs. The approach acknowledges that systems cannot be fully designed in advance to accommodate every potential scenario, especially given the unpredictable nature of real-world experiences.

Encouraging the practice of co-production in the public service ecosystem should be approached systematically for several reasons, which is why research on co-production remains a relevant topic. It is important to understand how co-production processes can be optimised to improve public service delivery and innovation. There is a need for meaningful participation to address complex problems and for greater inclusion in co-production processes. In the discussion of this dissertation, I analysed how meta-design can offer a systematic approach to co-production at the micro-, meso-, and macro-levels of a public service ecosystem. A systematic approach to co-production could foster deeper citizen engagement, agency, and trust. A systematic approach to co-production can also help identify and mitigate power imbalances, ensuring that the co-production process is more equitable and effective in generating truly collaborative and sustainable service systems. Finally, co-production can serve as both a mechanism for innovation in public services and an arena where power dynamics are negotiated and sometimes transformed, enhancing the legitimacy of the processes. The institutional context is crucial in shaping the outcomes of co-production and the conditions it reproduces (Habermehl & Perry, 2020).

The limitations of this doctoral research are discussed in detail at the end of the methods chapter. Consequently, there has been a deliberate focus on theory-building throughout it. Additionally, it should be noted that multiple streams of co-production theory exist, and no single understanding of the phenomena prevails today. My choice to focus on a seemingly small aspect of the co-production process has led to the proposal of a unique approach to the overall understanding of what co-production actually entails. The discussion identifies key elements that structure co-production, such as transparency, information, trust, participation, and accountability. It also proposes the use of meta-design to address the shortfall in design discussion within co-production and emphasises the need for a thorough consideration of design theory in this context. The effectiveness of examining service characteristics alone to understand co-production is questioned, and the conditions that activate co-production are deemed more relevant. Enabling ecosystems are viewed as macro-level systems that enhance co-production, thrive

on appropriate skills and tools from involved actors, and aim to advance the public good, focusing on transforming collective will and resources into societal benefits.

The research incorporates three articles focusing on various aspects of co-production. One study highlights the design principles for digital co-production and its impact on inclusion, specifically in terms of accessibility and interaction. The second one discusses the role of professionals and managers in enhancing social equity through collaborative management frameworks, which are created with the help of a co-design model. The third article investigates the co-production of social innovations and the development of enabling ecosystems for social enterprises, emphasising their role in addressing societal needs and increasing the working conditions of social enterprises in Finland. The dissertation views co-production not as a static outcome but as a continuous, interactive process, advocating viewing meta-design as a crucial tool for exploring design requirements and understanding interdependencies within a public service ecosystem. Moreover, it highlights the necessity of background processes that support agency, power redistribution, and legitimacy in co-production, suggesting that employing such processes fosters a productive learning ecology for systemic change.

Based on the existing analysis and identified gaps, several directions for future research can be proposed to deepen understanding and enhance the application of co-production as a design practice. Conducting comprehensive studies to examine how design principles and processes influence the outcomes of co-production and identifying the specific contributions of design for co-production practices could be studied. Systematic research could be conducted to map where and how design occurs within co-production processes. Doing so would involve identifying key design activities, the stakeholders involved as designers, and the outputs produced by those design efforts. Those aims could be achieved by empirically researching who the designers in co-production processes are, their roles, and what they contribute to the co-production environment. Understanding those elements could provide insights into the integration and impact of open system design in co-production frameworks. Such research might include case studies or ethnographic research that captures the dynamics between designers and other stakeholders in co-production settings.

Investigation of the applicability and effectiveness of open system design or meta-design in real-world co-production scenarios is another vital research topic. Such research could focus on the challenges and benefits of implementing meta-design principles in various co-production contexts and how these principles facilitate adaptability and innovation. Longitudinal studies could track the development and impacts of co-production design over time. Comparative research to examine

how co-production as a design practice varies across different cultural, economic, and institutional contexts is also merited. That could help identify universal design principles that are effective across various settings as well as the context-specific adaptations necessary for success.

This study also offers several practical implications for public administrators who are tasked with enhancing the delivery and efficacy of public services. The integration of design principles in co-production may encourage innovation and creativity in public service management. Public administrators can leverage design methods to explore new ways to solve problems, leading to innovative solutions capable of addressing complex public needs. Emphasising design in co-production highlights the importance of flexibility in public administration. Design-oriented approaches allow public services to be more adaptive to changes and responsive to emerging challenges, enhancing their ability to quickly adjust policies and services in response to user feedback or shifting circumstances.

The current study should encourage a systematic examination of where design happens in co-production processes, which could help public administrators understand and implement structured methods for integrating design into their daily work. Exploring the applicability of meta-design in co-production provides a practical framework to aid public administrators in creating open systems conducive to collaborative public service design. That advance could help structure environments that support continuous improvement and engagement. In essence, the study offers public administrators a comprehensive framework to help understand and implement co-production as a dynamic and participatory approach to public service design and delivery, which is critical for addressing modern public challenges inclusively. Our complex public service systems will not become any less complex in the foreseeable future. Tackling the multiple crises afflicting society will remain instrumental. Change ushering in more inclusive cultures of collaboration is needed, and any efforts advancing it should be welcomed. Design theory and process ontology offer a system-oriented approach to the application of co-production as one means of enhancing inclusive problem-solving and idea-generation. I hope this study will inspire future research to view co-production as a practice that should be designed and systematic and to develop practical methods to advance it.

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Appendices

Appendix 2.1

Organisations and the participants in the workshops

4 prisons (under Criminal Sanctions Agency)
11 municipalities

Participant role	**Number of participants**	**Collected data**
Criminal Sanctions Agency		
Project coordinator	2	1 interview
Head of development	2	1 interview
Manager	2	
Professional	11	1 interview
Prisoner healthcare	2	
Municipalities		
Manager	4	1 interview
Professional	7	
	Total 30	**15 questionnaire responses**

Facilitators	2	1 joint interview

Appendix 2.2

Quotes from interviews and the questionnaire responses

	Communication and collaboration	**Roles and decision-making power**	**Practices and culture**
AN3	The workshop was successful and brought participants closer to each other, organisational boundaries were forgotten, and shared understanding increased.		
AN4			The [SID] process was very effective.
AN6			Well managed process that led to the right topic.
AN10	The process helped at the beginning of the project in starting the collaboration. The representatives of different organisations found common ground, shared understanding, and joint vision quickly.		The eternal lack of resources was left.
AN11		In group work I noticed, how some people were very strong personas [...] Especially problematic I felt that the project members had such strong roles in group work already, when they had already too strong opinions and creativity was shunned a bit too much.	
Anon 12	Sharing of knowledge and expertise, good collaboration, new contacts, and a meaningful way to develop [the network].		
INT01: Project worker	People used to work totally in silos at xx Agency, and they didn't really understand that the client also had a life in the society. I feel that the awareness of what we do and the point of alcohol and drug rehabilitation during imprisonment has increased after the [SID process].	[The social workers conducting evaluations in healthcare] didn't trust themselves to lead the collaboration, so I took part in those [meetings] a lot [in the beginning], and they wanted me to teach them how to lead. It has changed so that some workers don't ask me to participate anymore. They keep me updated on where we are going with each client, but they now have the courage to lead the collaboration.	If the core people who do this don't learn how to send service users to rehabilitation, who does this when the project ends? …they need our project workers in prisons to support the work.

	Communication and collaboration	Roles and decision-making power	Practices and culture
	Now we start to plan the external placements earlier, during the evaluation of service needs. It is great to note that the municipalities take part and often pay for the treatment programmes".		Some prisons do not send inmates to rehabilitation [if they have] a positive drug test [result]. We have tried to bring this and other issues forward in prisons...But it's like talking to the walls.
			This practice needs to be regularised, it must have clear structures, and everyone should have a chance to go to rehabilitation.
INT02: Social worker in prison	In the workshop, we discussed how it is sometimes very difficult to create [a collaboration] network because work in the city is so siloed. But now I think that collaboration has become easier. We have more contact details that are frequently updated.	"I have been given the freedom to plan my own work. I have had a chance to influence how it looks and is."	We have taken short-term prisoners into consideration more. …We have long known that short-term prisoners are the group that returns after imprisonment, they are here many times, and the faces become familiar. They have been very pleased, and we got a lot of positive feedback [from prisoners] because of enabling more rehabilitation".
	Communication with this one big city has been a lot easier. In the workshop, we discussed how it is sometimes very difficult to create the network because the work in the big city is so siloed. But now I think that collaboration has become easier. We have more contact details that are frequently updated	Well, I don't have power over anything. It's others who make the decisions, I just take care of things. But the better I prepare things the more likely it is that my own preparation goes through.... It goes like this that I'm the one who prepares the processes and evaluations. Then we have a supervisor who presents, then the manager who makes the final decision. I think that we all have our own approach to the issue. I think that is what can help in the success of the prisoner. Because there are things that supervisors look at from the perspective of safety and I look at from the perspective of rehabilitation.	We have put so many people to rehabilitation now. It will be a shame if the financing ends. I hope that despite the project ending, the collaboration continues with the municipalities in the same way. We have made work to develop the collaboration, and it can continue well in the future. …. I believe that we have been able to offer equal opportunities for rehabilitation.
	We [professionals and managers in prison] work together, and of course there are situations where we need to negotiate a bit, but I think our differences are valuable and we communicate openly.	The municipalities have participated well when organising the continuation of rehabilitation and service paths. I have been very positively surprised by that.	I feel that the awareness of what we do and the point of alcohol and drug rehabilitation during imprisonment has increased after the workshops.

	Communication and collaboration	**Roles and decision-making power**	**Practices and culture**
		(My own work) has changed a lot from what it was. I have started to create my own programme (within the prison) and started working on external placements (of the prisoners). Now we start to plan the external placements earlier. It is great to notice that the municipalities often take part now and pay for the treatment programmes	
INT03: Manager in CSA		The most important changes in [the treatment of prisoners] have been that we have changed our internal processes so that planning responsibility has shifted to the staff working directly with the prisoners. We can move forward faster, and the same employees proceed with the prisoners [throughout the whole process].	I can imagine that [short-term prisoners are] a group that is not so wanted because of the alcohol and drug problems. But through this project, I hope the municipalities also see [rehabilitation] as a valuable use of resources.
	Through collaboration [between different organizations], shared understanding has increased, collaboration is generally easier.	[My own work has changed] through collaboration that has gotten easier, and the development of network collaboration is my job. [The change] shows and has an impact when some area works better [than before].	Certain professionals have practices that do not necessarily fit with our processes, which is why we can't take service users forward in the process and on to rehabilitation quickly enough. We discussed it, and last time they said that they had received so much feedback that they started to think that their system was not user centric. Hopefully, there will be changes in the future.
			If we think about [the change in culture] inside CSA, it has changed, slowly but surely. Especially if we talk about the rehabilitation programs related to short-term prisoners.
INT04: Manager in a municipality	I hope that some more permanent models and structures will be born.... I think that it is important to know what others do. It's continuous work because the employees change. … I noticed that we work very differently (in municipalities).	Before the collaboration was not as clear and there were not dedicated contact persons [between organizations]. [The network] has clarified my own role. Now my role in customer interface has become smaller. My work has alleviated a little bit.	[The network] has brough some clarity [to work culture] […] Maybe more information, there has been info-events and interaction [between organizations]. The [network model] is targeted at certain people and it guides their work.

	Communication and collaboration	**Roles and decision-making power**	**Practices and culture**
Facilitator 1	To make visible [to all workshop participants] the customer's story, the CSA brought an idea to use a vignette.		
	We aimed to bring the results from all tables for everyone to be heard. We used time to share and present the results to each other.		
Facilitator 2	Sometimes there can be frustration that everything is shared all the time, but maybe this process didn't have that. It is also the professionalism of the facilitators to be able to support [knowledge] sharing."		

Appendix 3.1

Characteristics of the interviewed implementers of social innovation ecosystems.

Social enterprise	**Description**	**Target group**	**Type of organisation**	**Organisational modes of activity**	**Paid employees**	**Volunteers**	**Institutional network**
SE1	Creative caring community	Elderly people	Registered association	Based on the community work of volunteers in municipalities	5 + temporary project employees	2500	23 municipalities
SE2	Training and project organisation for creation of culture	Mental health survivors and people with disabilities	Registered association	Based on the collaboration in networks and sales and trainings of wellbeing products	12	No identified role	43 member organisations, working in mental health, disability, intoxicant, and culture services
SE3	Expert organisation for the equal employment	People with disabilities, long-term illnesses and	Foundation	Development, advocacy, training, dissemination of	11 + temporary project employees	No identified role	45 background organisations + co-operation with employment, rehabilitation and education stakeholders

Social enterprise	Description	Target group	Type of organisation	Organisational modes of activity	Paid employees	Volunteers	Institutional network
		people with partial work capacity		information and active networking.			
SE4	Offers social and health care services and housing	Elderly, disabled, addicts, homeless, children, youth, and other people with special needs	Foundation	Paid services and neighbourhood work with volunteers	2600	No identified role	Part of a larger foundation group
SE5	Dedicated to educating the public in matters of home economics	Anyone	Registered association	Collective learning amongst members through different clubs	Approximately 100	38 500 members	Part of the International Federation for Home Economics (IFHE), collaboration and campaigns with organisations and the authorities
SE6	Produces child welfare services	Expecting families and families with small children	Registered association	Free services and help from experts by experience and volunteers	70	The number of volunteers is not specified	Collaboration with municipalities, families, and research institutes
SE7	Network platform for producers of wellbeing services	Public social and healthcare services	Limited liability company	Digital platform and network, collaboration and co-creation	3	No identified role	35 shareholders who collaborate to offer services to public employers
SE8	Develops and promotes tools based on virtue ethics for organisations	Work environments	Limited liability company	Coaching for organisations and free tools for education of children	3	No identified role	No identified network
SE9	Open space that offers services and rental spaces	Promotion of mental health	Limited liability company	Co-creative space for events, work, art	6	The number of volunteers is not specified	Shareholder and collaborative associations and projects

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Design for inclusive digital co-production

Sofi Perikangas and Sanna Tuurnas

School of Management, University of Vaasa, Vaasa, Finland

ABSTRACT
In this article we identify design principles for digital co-production and analyse how they can enhance inclusion. We focus on digital co-production in a community development project by studying the accessibility and interaction of the digital co-production events during the Covid–19 pandemic which increased the need for digital co-production methods and created a need for new designs of such processes. From the perspective of design, inclusion needs to be addressed both at system level as meta-design and during implementation by enhancing accessibility and interaction.

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Introduction

Our study focuses on inclusion in digital co-production in a community development project setting. Co-production has been a topic of interest in several community development pursuits recently, some also addressing the development of digital technologies as part of the evolution of co-production (see Vanleene and Bram 2018; Zou and Zhao 2021). The Covid–19 pandemic moved co-production from streets to the digital environment, thus creating a need for new designs for co-production processes.

In this context, we understand co-production as an umbrella term for government-citizen interaction in different levels and forms of public policy and service formulation (Eriksson 2022). In the same way, e-governance has been seen as a way to increase the quantity and quality of citizen-government interaction, and digital co-production has been seen as a core process to succeed in such interaction (Meijer 2015). Against this backdrop, this article focuses on digital co-production. Digital co-production has the potential to overcome challenges linked with face-to-face co-production, as digital forms can overcome time and space limitations, help in mobilizing citizens, and save costs while fostering the exchange of information (Zou and Zhao 2021, 4; Kjellström 2021, 229–230).

Inclusion is another topical issue in public service management and citizen participation. Following Eriksson (2022; see also Jakobsen and Calmar Andersen 2013), we consider that inclusion has not yet attracted enough co-production research. The

CONTACT Sofi Perikangas sofi.perikangas@uwasa.fi

questions of who gets a chance to participate and how seem to pose an eternal challenge that was presented in the classic citizen participation literature (Arnstein 1969; Fung 2015). The question of inclusion opens a Pandora's box of co-production process planning and design. For analysing such events, it is essential to pay attention to the design of the co-production process.

Osborne and Strokosch (2013) stress that the key challenge in co-production is to find the right mechanisms to free the potential underlying the process. We believe that the design of the co-production process can shed light on such mechanisms Seemingly small details and design elements can considerably affect co-production outcomes (see, Kjellström, 2021; Hardyman, Daunt, and Kitchener 2015), but this approach is still not common in the research field of co-production. As Sicilia et al. (2019, 237) note, few studies have analysed 'the design of the co-production process under investigation in any depth'.

Overall, our analytical framework builds upon the literature on co-production, citizen (e-)participation, and design studies, offering a window to examine inclusion in digital co-production from the viewpoint of design. Nieuwenhuizen and Meijer (2021) note a need to shift the focus of digital co-production research from an effectiveness approach to encompass the themes of participation and equality. There is also a need to understand the interaction in digital settings rather than focusing on the technologies (e.g. Kjellström, 2021; Rodriguez Müller et al. 2021).

Thus, our research question is: *How can design enhance inclusion in digital co-production?* Specifically, we study how a systematically designed digital co-production process can help to sustain and increase inclusion. We approach the design of digital co-production in this article through the concept of meta-design, the design work and process in the background of the design of public services, and as a part of a digital co-production process (Cepiku et al. 2020; Giaccardi and Fischer 2008). By this approach, the general nature of this research can be described as 'bottom-up' as it focuses on a micro-level observation of a co-production process.

The context of the study is a research and community development project in a Finnish city with a population of approximately 68,000 habitants. The data acquisition was conducted during the Covid−19 pandemic period, 2020–2022. Two residential areas in the studied city have a bad reputation and more social and societal problems than other parts of the city; moreover, their inhabitants have a relatively low socioeconomic status. Empirically the study addresses digital co-production activities in the setting of a research project focusing on those areas and working closely with a city-driven community development project.

Overall, we consider the micro-level occurrences in digital co-production events to be essential for understanding and developing the public service management level; the choices made at the micro-level can be directly linked to service management outcomes (Hardyman, Daunt, and Kitchener 2015). Our research strategy, focused on a thorough and detailed examination of a digital co-production process offers valuable insights for researchers, but also facilitators and managers dealing with online and offline modes of co-production.

Digitalization meets co-production

Digitalization is a key trend in public management across the globe. As Bovaird and Loeffler (2015, 16;135) suggest, for the last few decades, technological changes,

particularly in information and communication technology, have been notable external factors driving public policy reforms. On the other hand, co-production has been seen as a radical alternative to traditional means of citizen participation that the governments have executed, and an opportunity to miss the ills of traditional citizen engagement (ie. Osborne and Brown 2011). Co-production can be conceptualized by stating that it brings together the necessary stakeholders concerning a service or system and offers them a voice to influence the decisions that affect them (Brandsen and Honingh 2016, 427).

In addition, implementing co-production has been made easier and possibly more accessible, inclusive, and transparent by technological advances (Brandsen et al. 2018, 4–5; Meijer 2015). Digital co-production can be considered a co-production strategy because it typically involves technology as a value that can bring effectiveness, innovation etc., to the traditional co-production (Bovaird and Loeffler 2015). It should follow a process that is adaptive, iterative and context-sensitive (Rosen and Painter 2019, 338). The term *digital co-production* can take many shapes of digital technology-assisted formats of co-production. Such formats can include digital applications, virtual environments, technology-assisted events, social media platforms, and other group communication tools (Lember 2018).

In addition, much of the focus in digital co-production studies has been on digital participatory platforms (DPPs; Falco and Kleinhans 2018). Those include *Maptionnaire*, a map application where the users can pinpoint different elements on familiar locations. Such platforms could offer citizens a say in the development and decision-making processes of government (Falco and Kleinhans 2018; Lember 2018). Recent research also concerns social media participation and the opportunities presented by it (Lember 2018, 116–117; Jalonen and Helo 2020; Lember, Brandsen, and Tõnurist 2019; Lubna; Alam 2020), simplification and tailoring of digital services (Larsson and Skjølsvik 2021), smart city services (Lember 2018, 117) and governance strategies for online and offline participation (Rui and Wang 2022, 506).

During the Covid−19 period, digital technologies were applied to co-produce public services because meeting people face-to face became impossible (e.g. Zou and Zhao 2021; Kjellström, 2021). That partially changed the discussion of digital co-production and highlighted a need to analyse digital co-production more as a co-production strategy, focusing on the interactions on the platforms rather than technologies and their outcomes. Our study is focused on this approach: the use of digital software in a situation where face-to-face interaction was initially planned but impossible to execute at the time.

Inclusion in (digital) co-production

Inclusion in co-production typically means how co-production can create more inclusion or how it is an inclusive practice aiming to empower all stakeholders, especially citizens (i.e. Kleinhans, Falco, and Babelon 2022; Rosen and Painter 2019; Strokosch and Osborne 2016). We discuss inclusion in this article with reference to Pietilä et al. (2021), where evaluating the quality of people's participation is central and must be equably executed to enable the deliberation of various opinions and perspectives. Eriksson (2022) approaches inclusion in co-production similarly to Pietilä et al. (2021) and divides it into external and internal inclusion. He handles the division further by introducing constrainers and enablers for both. External co-production in

digital co-production can relate to the accessibility dimension in inclusion. Internal inclusion, in contrast, can be related to the forms of interaction in digital co-production. Accordingly, we approach inclusion issues in a digital co-production process from two viewpoints: (1) inclusion by accessibility and (2) inclusion by interaction.

Inclusion by accessibility is approached in our study through the elements of co-creation method, selection of participants and access to software. Accessibility is typically related to several issues such as 'accessibility for people with disabilities; access to and quality of hardware, software, and internet connectivity; computer literacy and skills; economic situation; education; geographic location; culture; age, including older and younger people; and language' (Lawton Henry, Abou-Zahra, and White 2010). From accessibility point of view, the lack of inclusion in a digital co-production process may relate also to the resources required for participation, such as a functioning web camera or stable internet access. However, the participant might also lack experience in using digital tools or software or a belief in their capability to participate in co-production through the selected co-creation method.

The above are typical examples of the so-called digital divide caused by the systemic inequalities digitalization brings to the surface, and the covid−19 May have even widened the gap (Lai and Widmar 2021). Zou and Zhao (2021, 16) note that because of digital divide, the use of digital technologies in co-production may prevent some residents' voices from being heard, and thus they may end up getting the services they would not have needed because they never had a chance to contribute to co-production independently. Thus, software access should be as simple as possible to lower barriers to access (Eriksson 2022).

The professionals might also limit recruitment of citizens by asking a narrow selection of people to participate (Makey et al. 2023, 3). Demographic recruitment of citizens can be used as a strategy to minimize inclusion bias (Fung 2003; Nabatchi 2012). Although, Tai, Porumbescu, and Shon (2020) have shown that e-participation may help less affluent groups of citizens to mobilize in public service provision, and through this, also participation in offline modes. This shows a positive signal for digital co-production. In the same way, Lee and Kim (2018) show that citizens with weak (offline) social ties promote e-participation.

By approaching *inclusion as interaction*, we focus on interaction with software, group dynamics and the different roles of the participants in the digital co-production sessions. Technology plays an increasingly important role in co-production by changing traditional practices. The change may materialize in the interaction with new digital tools and environments for interaction (Lember 2018, 124). The general context and the antecedents of co-production influence the outcomes of collaboration and collaboration dynamics (Cepiku et al. 2020, 16). The expectations and preconceptions of the stakeholders can be managed by participation strategy, the meeting design, and impacting the conceptions.

Notably, the group dynamics in co-production are always connected with the power relations and the distribution of power between people and institutions (Vanleene and Bram 2018, 201; Rocha et al. 2021, 10). Digital co-production events can affect the power relations between the group members, owing to the positioning of all the participants on the same screen (Kjellström 2021). Moreover, professionals' central role in enabling or hindering inclusion comes to question also here in terms of whether

they promote the needs of professionals and institutions or recognize the needs of the communities they are supposed to serve (Makey et al. 2023, 3).

The lived realities in the communities are often complex and diverse, and the solutions to them are not linear processes, which many professionals and organizations fail to recognize (Crisp et al. 2013, 251; 253; 255). Thus their communication may lack meaning in digital co-production events or hinder inclusion (Lee and Kim 2018). However, the strong presence of professionals in the co-production process may also invoke an unconscious desire to please them. Managing the relationships between stakeholders can be facilitated by the design and management of group dynamics, which have been reported to be central to co-production (Vanleene and Bram 2018; Cepiku et al. 2020, Rocha et al. 2021). Engagement, iteration and sharing of power while understanding its constant imbalance are key measures for addressing inclusion of digital co-production events (Rosen and Painter 2019, 339). Despite some encouraging results, inclusion remains a wicked issue in co-production in online and offline settings.

The role of design in co-production

Some recent studies have shown the importance of the design of co-productive processes (e.g. Lee and Kim 2018; Madden et al. 2020; Keppeler et al. 2022). Clark (2018, 372) suggests that the designers of public participation need to first take a step back from problem solving, to understand the problem setting and create a design for public participation, where we position co-production in this article, in order to enhance equity. In addition, Romme, Georges, and Meijer (2020) suggest design science, the utilization of design methods in research, as an approach to study public administration from a wider perspective.

Designing for co-production processes can drive desired cultural or organizational change and a system-level transition trough designated tools and methods. These tools can be concrete game-like systems or facilitated processes, aimed to help a certain group of people discuss problems, create solutions, and make decisions. (Vaajakallio 2012) Hyysalo et al. (2019, 890) address this topic from the viewpoint of intermediate co-design, or meta-design, where the process is designed to ensure the needed quality and quantity of outcomes.

Meta-design was first introduced by Giaccardi and Fischer (2008) as a design paradigm for developing complex systems that can evolve with the contribution of the end users. This meta-design might be a designed platform, or a method or tool forming a basis for services to be co-created. Later, the concept was used in the design of e-government services (see Fogli 2013; Fogli and Parasiliti Provenza 2012). This approach shifts the focus from the study of co-production as merely the design of public services to the preparatory actions of a co-production platform or tool and analytical iterations of the process, which is also promoted by Clark (2013).

This article reports on the session design for co-production events. Kjellström (2021) suggests session design can boost digital co-production events. The events can be framed around different components by managing: (1) The expectations and preconceptions of the stakeholders, (2) The relationships between them, and (3) Governance and facilitation arrangements (Greenhalgh et al. 2016, 406). The co-creation method selection is important in the session design of co-production events. Jianbin, Zhang, and Ren (2022, 13–15) address that the selected co-creation method

has to have a universal theme, ease pressure on participants to interact with one another, and avoid cognitive frustration and motivate group participation.

Accordingly, the designers and facilitators of co-production events must consider inclusion in terms of surroundings, language, and forms of participation in online as well as offline settings (see Eriksson 2022; Jakobsen and Calmar Andersen 2013; Lee and Kim 2018; Tuurnas 2021). Accessibility should be used as a key strategy in the design of services to create more inclusion, and the elements of co-creation method, selection of participants and access to software are central design principles for inclusive digital co-production (Lazar, Goldstein, and Taylor 2015, 220–223; Rosen and Painter 2019).

Co-production creates complexity by engaging a variety of actors from different areas of organizations and external stakeholders, such as citizens. The processes can cause value tensions between participants, and the coping behaviours of the participants will influence how potential conflicts are overcome; if they are. (Jaspers and Steen 2019). This can be addressed also to digital co-production settings (eg. Lember 2018; Voorberg, Bekkers, and Tummers 2015). The designers and facilitators of co-production should make plans to equalize any power relationship between members (Makey et al. 2023, 3).

The meta-design perspective, therefore, can illuminate the purpose and goals of co-production and how it can be utilized systemically in governing public organizations since a well-planned and managed co-production process should be at the centre of public service design (Cepiku et al. 2020). To sum up, our analytical framework is based on literature on co-production, citizen (e-)participation, and design studies, offering a window to examine inclusion in digital co-production from the viewpoint of design. We construct the analytical framework based on two elements that focus on micro-level occurrences in the digital co-production process:

(1) Inclusion by the accessibility of a digital co-production by helping to tackle the digital divide and selection bias
(2) Inclusion by interaction in the digital co-production balancing uneven power relations and group dynamics.

These two elements are built upon a meta-design, the systemic approach to the process, based on six design principles that the literature emphasizes: co-creation method, selection of participants, access to software, interaction with software, group dynamics, and roles of participants.

Presentation of case and data

Our research data were collected for the Lähiö-Inno research project, which was funded by the Finnish national suburban program that ran between 2020 and 2022. The project explored the issue of segregation in suburban and inner-city areas and how to strengthen social sustainability and create citizen-led innovations. Eight researchers in total were involved with the project. The researchers gathered data by organizing digital co-production events with the residents. The knowledge created in the events offered visions for the development of the areas and their services.

Demographic recruitment of local citizens was conducted by inviting *citizen boards* to the events. In Finland, municipalities are bound by law to organize citizen boards

that gather local citizens together to represent a certain segment of the citizenry in decision making processes. (Local Government Act 2015) In this case, the citizen boards of the elderly, disabled, immigrants, youth, and people from a certain geographical location were included. The citizen boards comprise volunteer citizens, who can propose and comment on development ideas in their regular meetings supported by the city. That way they have a possibility to impact the decision making in the city. The citizen-boards are semi-institutionalized regular meetings, and the boards are selected for a one-year period. One board has ten members. In addition, the researchers and city administrators decided to invite active locals representing the same demographics in the events, even though they didn't formally belong to the citizen boards. Even though these citizens were not part of the boards, they had a connection to the city administration through another city development project. The participants are presented on Table 1.

The research data comprised meeting notes focusing on the planning of the digital co-production process and the actual co-production events, other documentation relating to the sessions, such as invitations and presentation materials, such as invitations notes, as well as the transcribed co-production discussions and video recordings from the meetings. Interactions, the micro-level occurrences, during the sessions were observed by reading the transcriptions and watching the video recordings from the meetings. The material was gathered over four digital co-production events held at the end of 2020 and the beginning of 2021, over a six months long time period. In each session, one citizen board was present.

In the project, also additional digital co-production events were held with more randomly selected participants, as with a certain immigrant society members and a group of unemployed residents, but the data from those sessions is not included in this study for comparability and cohesion of the data. The citizen boards are publicly mandated, semi-institutionalized governance networks. In the events for citizen boards, the researchers and public administrators applied a mix of adaptive

Table 1. Participants of the co-production events.

Citizen board in one co-production event	Familiarity with each other	Demographics	City administration	No. of say during the meeting (average)
Resident board (*n*=6)	All familiar with each other	Six local residents, all members of the Resident Board	One administrator present	19 (per facilitator) 21 (per resident)
Youth board (*n*=5)	All familiar with each other	Five local residents, all members of the Youth Board	One administrator present	36 (per facilitaror) 36 (per resident)
Immigrant board (*n*=3)	Not familiar with each other	Two members and one vice member of the Immigrant Board	No administrator present	25 (per facilitaror) 18 (per resident)
Senior and disabled boards (*n*=6)	Not all familiar with each other	Five active local residents representing the demographic, and one local resident is a member of the Disabled Board	One administrator present	13 (per facilitator) 31 (per resident)
Total 20 participants				

facilitator strategy and an institution builder strategy to the co-production process. Central in these strategies are a limited number of appointed network members, where the institution builder perspective links the networks also with selected self-convened active participants of the community. (Hagedorn Krogh 2022, 649).

Thus, in this study, we included only the sessions with semi-institutional citizen board members and in one case the additional active citizen stakeholders as co-producers. After the sessions, we sent a short questionnaire to the city administrators on the selection and invitation of the participants. In addition, we held a self-reflective discussion meeting with two other research group members. We facilitated the discussion around the topics of group dynamics and the use of the co-creation method and facilitation during the meetings.

As for limitations, we acknowledge that the citizen boards were semi-institutionalized forums for citizen participation and, as such, were staffed by residents who already possess some skills, motivation, and ability to co-produce. We considered the citizen boards, representing various demographics, could offer the most plausible conduit to potential participants and obtain insights from various resident groups in a pandemic setting. The sizes of the focus groups in the events were relatively small and not all citizen board members were present. Thus, we were only able to observe those who did participate in the digital co-production sessions. It raises the possibility of selection bias, meaning that it can lead to biased results and reduce the generalizability of this study since we worked with small groups and people who generally knew each other.

Research design

Our research has basis on the action research approach. We refer to Eikeland (2012), who understands action research as a multitude of relationships and interactions that are in constant flow. In that approach, the different forms of interactions are at the core of the analysis. We also applied an interventionist case study approach to understand these interactions. That approach involved the observation of and participation in the process and the researchers taking an active role (Jönsson and Lukka, 2006). The researcher can then work as an expert immersed in the process as an active participant in co-production (Lukka and Vinnari 2017, 723).

We analysed our data to reveal the interactions and causalities within it by referring to process organization studies by Langley and Haridimos (2011). Processes can be studied in several ways, and a common element is their temporal orientation. In this case study, we examine micro-level interactions in digital co-production events that help to understand the role of design in enhancing inclusion. We observe the micro-level interactions by addressing causal mechanisms (Beach 2016) that occur in one or several of the digital co-production events. The digital co-production events were the single workshops that were organized as a part of the bigger co-production process.

The causal mechanism is discovered from the data by observing occurrences that affect inclusion in the digital co-production process. Occurrences as analytical units included crucial points in the process which were coded as excerpts such as parts of discussion or reflections of the researchers. The criterion for whether the causal mechanism affects inclusivity was that change in the access or interaction within the digital-co-production event was perceived. To secure validity, we used researcher triangulation in the analysis to avoid bias (see Flick 2004).

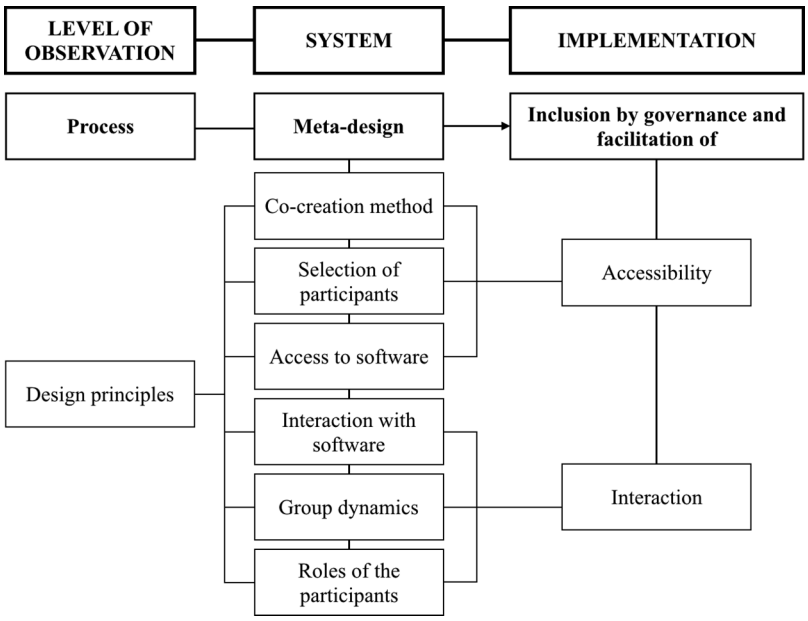

Figure 1. Analytical framework.

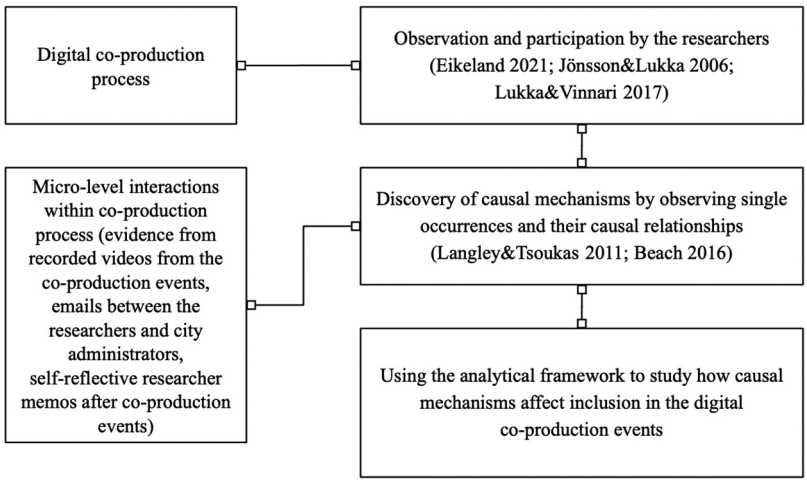

Figure 2. Research design.

We used the analytical framework (see Figure 1) to build the coding frame (Figure 2) and to detect the core elements in the digital co-production process. We conducted the analysis by discovering causal mechanisms that affected the facilitation and governance of the accessibility and inclusion in the digital co-production events, and which thus refine the need for certain design principles in the process. Inclusion by accessibility was analysed by focusing on three aspects of the digital co-production sessions that were presented in our analytical framework: the co-creation method,

selection of the participants, and access to software. Inclusion by interaction was analysed by focusing on three other aspects of the digital co-production sessions: interaction with software, group dynamics, and roles of the participants. To sum up the research design, we moved from the action research approach in the data collection towards the analysis of the digital co-production process, wherein we used the analytical framework as our coding frame (see, Schreier 2014).

Results

Inclusion by the accessibility of a digital co-production process

The initial concept for the digital co-production sessions originated in November 2020 during several planning meetings by the research group. The *co-creation method* combined a focus group meeting agenda with a design research method known as *issue cards*.[1] The issue cards concept was as a slideshow (Figure 3) at the digital sessions, with each slide displaying the main theme of the conversation, the associated illustrations, and the supporting sub-themes.

The themes for the issue cards were decided upon the initial research plan, statistical knowledge concerning the circumstances in the study areas, and preceding conversations with the city administrators involved in the community development project. The causal mechanism affecting the co-creation method was the knowledge of the demographics of the residents in the studied areas. The project's special focus was on improving the life quality of the living areas through housing and infrastructure services for the citizens. Thus, the selected themes for issue cards were: (1) places and spaces, (2) community, (3) living, (4) transport and getting around, and (5) networks. To help the participants reflect on the individual themes; the issue card featured four questions: 'What works?', 'Where do you see space for improvement?', 'What are the problems or what is missing?', 'What are your chances to make an impact?'

The concept was repeated in a relatively similar manner and using the same agenda with all the different groups of participants. Figure 3 depicts one main theme, *places, and spaces*. On the left side of the slide are four pictures depicting a landscape, a pile of

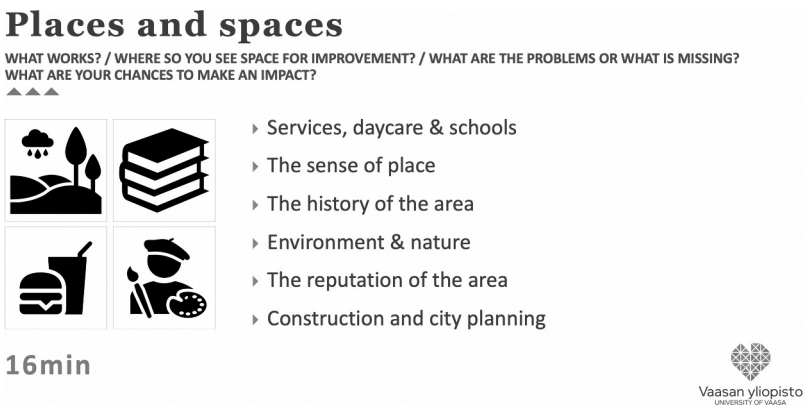

Figure 3. The first theme, places and spaces, with its sub-themes. translated from Finnish to English.

books, a hamburger and drink, and an artist. To the right of the pictures are the subthemes: *services, day-care, and schools*; *the spirit of the place and the atmosphere*; *the history of the area*; *the environment and nature*; *the reputation of the area* and *construction and city planning*. The accessibility perspective of the researchers was in designing material for the co-producers that would support the inclusion of participants with different abilities to associate and reflect with written text and illustrations. In the analysis, the selection of the issue cards method was discussed between the researchers on the light of the participants' reaction to the co-creation method. In general, the participants tended to discuss the themes by going through the list of topics one by one.

The *selection of participants* in the digital co-production sessions was guided by the idea of creating safe spaces for different segments of the citizenry to express their thoughts and ideate solutions for the problems they saw. Thus, in each session, representatives from one demographic group were included (see Table 1). To participate in the digital co-production sessions, interested citizen board members could nominate themselves, and they were selected by vote. The project team and city administrators invited the citizens. The active role of officials in participant selection might have affected the willingness to participate in the process, either positively or negatively. The active role of officials, affecting the selection of the participants, was perceived as a causal mechanism by the researchers. One can assume that participants might have seen more of an opportunity to express their opinions because the invitation came from the city administration than if it had come from a research institution.

Access to software was observed by tracking whether the participants had trouble in attending the sessions. The causal mechanism affecting this was perceived to be the number of connection failures that the participants experienced. In three-quarters of the meetings, some participants had trouble joining the meeting or failed to attend, causing other participants to attempt to reach the missing people through their shared social media channels: 'Alright, you have started; I had a little trouble, this link told me that that link has an error'. These situations also prompted conversations between the participants:

> Facilitator: Next, we have Participant 5. Participant 5, are you onboard? Let's wait for Participant 5 to come on board . . .
>
> Participant 3: I noticed that Participant 5 didn't have a microphone icon showing at all, he may have to enable the use of the microphone on the browser if he joined through that.

These small interactions were seemingly minor problems, but they happened in each session to some extent, typically at the beginning of the session, and thus impacted the interactions between the facilitators and the participants, taking time from the discussions and affecting the overall group dynamics. People had trouble with the software, and some were not committed enough to attend. In addition, even with committed participants, who had relatively good group cohesion, we could detect a digital divide in terms of skills in using software with personal hardware. Therefore, when designing a digital co-production process, it is essential to remember that most people do not possess the latest technology. Various hardware is in circulation, complicating the provision of live technological support. Technological barriers can also trigger a no-show effect at digital co-production events.

Inclusion by interaction in a digital co-production event

The primary factors that affected inclusion by interaction in the sessions were interaction with the software, group dynamics and roles of the participants. The topic of *interaction with software* not only related to accessibility but was present in the interactions throughout the sessions. For instance, the researchers' interaction with web cameras caused the participants to follow their example. This was discovered as a causal mechanism that affected the interactions over the rest of the co-production events. From the beginning, some participants had their web cameras shut off, even though the researchers asked for them to be open. This resistance to instructions was unexpected for the researchers and had not been considered systemically in the design of the meetings. Participants were also hesitant to act according to the researchers' wishes. Below is an example of a conversation between the facilitator and one participant:

> Speaker 14: . . .do I have to turn the camera on?
>
> Facilitator: That's what I hoped, if it's possible.
>
> Speaker 14: Don't freak out; here comes an ugly man in the picture. Now I will push that start video.
>
> Facilitator: Okay, now we see the picture too.

Also, in the beginning of the meetings, researchers who were not active in the discussion closed their cameras when the discussion started in an effort to reduce the visual noise in the discussion, but the action prompted some participants to close their web cameras immediately afterwards. That changed atmosphere of the discussion because some participants were less present than others, thus affecting the interaction between the participants. As a result, participants who didn't have their cameras open took less part in the discussion than those who had their cameras open.

An example of a situation where the existing *group dynamics* affected the nature of the conversation from beginning to end occurred when the leader of the group, who would also be the chair of the council, made a statement about their experience of the question at hand, after which no one questioned it. Also, whether a city official took part in the conversation, the participants tended to agree with them. Here, the existing causal mechanism was perceived to be the group unison among the participants:

> Speaker 11: I could start if the others don't want to.
>
> Facilitator: Yes, you're welcome.
>
> Speaker 11: Thank you. . .one could say that all people living in Ristinummi are more satisfied with living here than those who don't. . .but the reputation is a burden. . .
>
> Facilitator: Alright, thank you. What kinds of thoughts did the others have on this?
>
> Speaker 8: . . .This area's reputation. . .it's not as bad as they say elsewhere in the city.
>
> Speaker 10: . . .I agree with the others, that this reputation is maintained in the newspapers, I don't really follow social media, but almost every day, I go jogging and walking in Ristinummi, and I never experience any insecurity. . .The reputation is worse than the reality.
>
> Facilitator: Okay. Okay, did speaker 14 have some thoughts?

> Speaker 14: . . .I think [. . .] it looks like the problem is largely the reputation that has been created, or has been born and it should be gotten rid of because it certainly doesn't hold true.

The *different existing roles* of group members who know each other beforehand can greatly affect the dynamics of the co-production event and create a scenario where some opinions are not expressed. This is closely related to group dynamics. The amount and nature of interactions with a participant who took chances to voice their thoughts and got agreed with was perveived as a causal mechanism affecting the different existing roles. The target groups being defined groups, such as citizen boards, meant the board leader had some authority over the group. Consequently, the other members largely settled for an observer role, signalled their agreement with what the leader said or at least waited for the dominant person to start the discussion.

Participants seemed to expect the roles they had within the group outside of co-production events would be mirrored in the session. That led the participants with a leading role in the group to dominate the conversation, usually speaking first and the most. The other participants gave space to the leader's opinions by supporting them or by staying silent. It also seems that in the groups that were more unfamiliar with each other (because of a newly formed citizen board or two boards in one session), the number of say (see Table 1), was distributed more evenly between the members. In these cases also the amount of facilitator intervention was smaller. Based on this, group cohesion and settled roles in the group seem to be hindering elements in voicing ones opinions.

Thus, voicing opinions and participation in the event was not divided equally among the participants. In terms of power relations and interaction, participants with critical perspectives may not have felt they had a safe space to express those views because the event was jointly organized by parties who were the subject of their criticism.

The facilitation of accessibility and interaction

In the analysis, we discovered that the facilitators had a crucial role in the sessions: The facilitator could make the conversation more inclusive by giving the floor to participants who would not actively engage in the conversation if unsupported. However, this does not necessarily mean that the more silent participants were willing to talk or voice any other opinions or thoughts than those already voiced by, for example, the group leader.

The researcher's facilitation consisted of the researchers' interactions, such as voicing questions, with the participants and following the co-production event agenda. Several research group members took part in the sessions, which meant that on several occasions, there were as many researchers present as participants. The considerable number of researchers meant that some remained silent for most of the session, and some led the conversation or contributed supplementary questions. The facilitator's job was to ensure that the session followed the agenda and the discussion advanced. Another aim was to ensure that all participants had an opportunity to express their thoughts.

In the researcher's reflection session, the leading facilitators reported that they felt the atmosphere was more difficult to create in a virtual context than in face-to-face meetings. The questions of how to create familiarity and foster trust in the researchers

by the participants were central. In addition, the formalities at the beginning of the sessions felt challenging to the researchers. The necessities of asking for permission to record, addressing data protection regulations, and introducing the research project made the beginning of the sessions information-heavy. The management of the co-production events was also perceived as hard; the digital nature of co-production played an important role in this respect. For instance, the participants could choose the mode of inclusion and level of intimacy (e.g. video on/off) from their own computer, following that the facilitator would lose control over the intimacy levels of the meetings through web cameras, and had to try other ways of making sure the engagement levels were high.

Discussion

Based on the analysis, the possibilities to affect inclusion in a digital co-production process are many. The initiators of the co-production process can impact the accessibility of an individual co-production event by paying attention to the co-creation method, selection of the participants as well as access to the used software. On the other hand, it is also possible to impact inclusion in digital co-production events by affecting the interaction with the selected software, facilitation of group dynamics, and paying attention to the different roles of the participants. All these possibilities are considered also as design principles in our analytical framework, constituting the meta-design of the whole co-production process. Thus, the meta-design approach offers a systemic level to the analysis of inclusion in co-production.

Making inclusive practice the norm may require a radical transformation of public service systems (Crisp et al. 2013, 254). That could mean either universal applications or heavily tailoring of services according to individual capabilities. Our results showed that managing how the participants interacted with the software proved difficult. For instance, time management and group cohesion became difficult to maintain because of malfunctioning software or unskilled operators. In the examined case, selecting commonly used software was intended to overcome the barrier to people being part of a digital co-production process (Eriksson 2022; Kjellström 2021). In digital co-production, the technologies used should be selected mindfully. Larsson and Skjølsvik (2021) have proposed that tailored services can even empower citizens.

The research on design for inclusion in co-production has increased, maybe partly because of Covid−19, but more systematic principles for inclusive digital co-production design would be beneficial. Our results showed that understanding visible and hidden power structures and the different roles of participants are essential for inclusion. Therefore, we agree with Farr (2018), who underlined how power dynamics can be a defining factor when designing a co-production process. Thus, although the literature indicates that group cohesion is important for inclusive and effective co-design (see Trischler et al. 2018), the underlying power relations may trigger controversial outcomes for equal participation.

While there is a long academic tradition of studying group dynamics (e.g. Shaw 1976), we see it as a part of the design process that needs to be taken into account by managers and especially by facilitators of the process. This finding should encourage event designers and facilitators to pay particular attention to the design of group dynamics. The analysis of the micro-level events in digital co-production process showed how seemingly small elements can affect inclusion. Interaction with software,

group dynamics and participant roles were important during the actual interaction. For instance, unbalanced group dynamics also exist in digital modes of co-production, potentially limiting expressions of opinions (see, Vanleene and Verschuere Kjellström 2021).

The designers should simultaneously consider the participants' existing roles in the digital co-production events and also the roles they might assume in the future. Sometimes, a productive event might require the professionals to give space to the citizens by speaking only when invited to. Those designing a co-production process should bear in mind that while it might not be possible to design for equal participation, certain elements in digital co-production can be manipulated to ensure more inclusive group dynamics. It is noteworthy that designing digital solutions is just a first step and the development of it needs constant attention and resources (see Randma-Liiv 2022).

The different elements of digital interaction can intersect, too: different digital distances are created depending on how people present themselves on the web camera (Kjellström 2021, 228–229), or even more so, whether they have their camera on at all. A person using their camera has a stronger presence and thus acquires more space and power in the process. This finding can be linked to the research results of Fledderus (2015), who revealed that participant interaction during a co-production session affects its outcomes.

Here, facilitation plays a key role in tackling harmful behaviour or securing balanced representation during the interaction in a digital co-production event. To this point there are conflicting views. For instance, according to Makey et al. (2023, 3) citizens should always feel they have permission to speak, and they can challenge other participants' different opinions. In any case, facilitation plays a key role in balancing interaction.

Action researchers, as well as design researchers, hold overlapping roles in co-production events; including but not restricted to a facilitator, a participant, a conductor and a pedagogue (Vaajakallio 2012, 78). The facilitators' competence needs lie in the need to orchestrate the interaction and balancing with free speech and fixed turns between group members, while remaining from influencing the content of the discussion (Franco and Nielsen 2018, 751).

If participants challenge each other, the facilitator must carefully assess the atmosphere within the group and adjust the facilitation accordingly. Our study showed that practicing inclusive digital co-production may require the practitioners as facilitators to learn new skills. In addition to digital skills, cultural competency is a skill that is increasingly in demand when working with diverse citizen groups (Taket et al. 2013, 23; Hagedorn Krogh 2022, 649). Thus, the skills of the facilitator, such as the distribution of power, are crucial for inclusive digital co-production (see, Rocha et al., 2021). In an action research process, the balancing between a neutral, inclusive guide and an interventionist who can carry the discussion towards the direction the participants seem to need, is an ongoing challenge that needs self-reflective analysis also between the co-production events.

Digital co-production also carries a risk of tokenism, and thus we consider that the focus should be more on enabling shared knowledge and empowerment among participants (Makey et al. 2022, 3–4; Niewenhuisen and Meijer 2021). As noted by Cepiku et al. (2020, 61) co-producers might be less inclined to participate if they do not feel they are understood or feel their efforts are not valued. Signs of appreciation

increase the motivation to contribute to co-production. Inclusion is also a stepping stone for building trust, which is an element of co-production that is linked to the willingness to participate in it. It's often discussed from the citizen point of view, surveying the motivation of citizens, but it goes the other way too; governmental trust and motivation are equally necessary for co-production to succeed (Rocha et al. 2021; 6, 8, see also Lee and Kim 2018).

Already two decades ago, Brannan, John, and Stoker (2006) outlined the importance of research strategies that address the complex engagement processes and emphasize the reflection of participation practices, not just the outcomes. Also Rosen and Painter (2019, 339–340) notice, 'planning practice needs models that create more inclusive and adaptive processes to deconstruct the power and resource inequalities'. Our study introduces one such example, an inclusively designed co-production process in digital environment, applied in semi-formal institutions that the citizen boards are.

Concerning online and offline participation overall, the study cannot offer research results about differences between those modes of co-production, but strongly supports the idea of Mu and Wang (2021) about a need for a special governance strategy to support digital modes of co-production to tackle dilemmas on representativeness in digital co-production. The use of intermediaries and technical support for enabling participation of citizens with limited digital skills is essential (see also Tai, Porumbescu, and Shon 2020). In the future, it could be interesting to conduct an experiment concerning online and offline opportunities for digital co-production and compare the outcomes in empirical settings.

Lember, Brandsen, and Tõnurist (2019, 1680) offer a scenario where *digital technologies will diversify co-production practices*. As the authors note, there are modes of co-production that are easily digitalized, but in some other forms the case may be the opposite (see also Dudau, Glennon, and Verschuere 2019; Larsson and Skjølsvik 2021). Greenhalgh et al. (2016, 417–418) also stress the importance of process governance and facilitation arrangements, emphasizing the whole co-creative process. Thus, the creation of digital and non-digital environments, where inclusion is considered throughout the whole co-production cycle can be succeeded by careful meta-design and facilitation of the process to address both the accessibility and interaction perspectives of inclusion. We bring this notion into co-production research and offer a valuable understanding of the interplay between design and inclusion in co-production by analysing micro-level events in a digital co-production process.

Conclusion

In this study we asked how design can enhance inclusion in digital co-production, more precisely, by studying how a systematically designed digital co-production process can help sustain and improve inclusion. Having a micro-level focus on the research, we have built understanding about principles that potentially thrive or hinder inclusion in the digital co-production process, depending on how they are considered in the design of the co-production process.

To sum up our core findings, the study underlines the importance of meta-design of the process as well as good facilitation. First, to increase inclusion, meta-design should cover the process from preparation to actual interaction between the participants. The research shows that inclusion dilemmas overlap

and expand throughout the digital co-production process, meaning that inclusion needs to be considered in the design of digital co-production and on a systemic level as a value in itself (see Dahl 1994; Nieuwenhuizen and Meijer 2021).

Then, what is specific about inclusion in *digital* co-production? The elements that differentiate digital and face-to-face co-production are the software and hardware used in digital co-production, and thus the different material environments and intimacy levels where the co-production happens.

A digital co-production event organizer should understand that 'digital' creates a different kind of complexity in the situation compared to an offline mode, starting from the technological skills of all parties, and the specific type of interaction environment where participants have an option to be present but with very limited visibility. The examined study illustrated a co-production process in which the individual events were originally designed to be face-to-face. By adding a digital layer, the organizers encountered challenges they were not necessarily prepared for.

Future research focusing on inclusion in digital co-production could also investigate different facilitation models and compare different software in digital co-production with different groups of citizens. We consider there is a need to extend the understanding of the opportunities presented by digital solutions that also take diverse citizen groups into account. The exclusion from digital co-production activities of groups with the greatest need for government services may become problematic. We suggest these groups require supplementary support and facilitation to ensure they can participate in co-production activities. Moreover, expanding the purview of research to include co-production design as a process enabling strategic public governance would help unveil the varying implications of digital co-production in public management settings.

We conclude the study with the notion that digital co-production is met with similar challenges with face-to-face co-production, but has additional element of technology that brings more complexity to the process. The process and its parts can be controlled to a certain extend by approaching it systemically through meta-design approach, but it still leaves a considerable responsibility to individual facilitators to be skilled enough to improvise and guide the interaction within digital dimension during the implementation. Even if digital co-production was implemented on an application without human facilitator-interaction, facilitation as an element remains, and it needs to be designed. The study agrees that digital co-production does not offer a quick fix for the democracy dilemmas related to inclusion and representation in co-production (see, Vanleene and Verschuere, 2018; Jakobsen and Calmar Andersen 2013). Nevertheless, careful design of the process could mitigate some challenges.

Note

1. Issue cards can be used to support the conversation around complex matters by breaking down the subject into physical cards and acting as prompts to suggest new interpretations of a problem and give different perspectives to the topic at hand. An issue card can contain, for example, an insight, a picture, a drawing, a keyword, or a description, based on the specific need (Stickdorn et al. 2008, 182). By simple texts and pictures, issue cards are an inclusive way to interpret discussion topics as there does not have to be a requirement to understand difficult language or terminology.

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Ensuring social equity through service integration design

Sofi Perikangas[a], Anne Määttä[b] and Sanna Tuurnas[a]

[a]School of Management, University of Vaasa, Vaasa, Finland; [b]Working Life Services, Diaconia University of Applied Sciences, Helsinki, Finland

ABSTRACT
This article poses the question, how can a design-led approach help managers and professionals in public-service systems recognize and reduce barriers to social equity? It introduces a service integration design (SID) model, a co-creative process for public-service managers and professionals in complex service system settings. The study shows how a structured and designed process can benefit the social equity of vulnerable groups, contributing to a timely discussion regarding the role of design in advancing the just and fair provision of public services in complex systems.

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Introduction

This article presents a service integration design (SID) model that applies collaborative management in practice, enhancing the different dimensions of social equity. Social equity can be understood as means to strengthen public administration by offering a regime to the service of the public in all its complexity (Svara and Brunet 2020, 356). To advance social equity within a public-service system, a focus on the just and fair treatment of the most vulnerable people is needed (Cepiku and Mastrodascio 2021; Van Hootegem, Abts, and Meuleman 2020). The problems of the public-service system we investigate are evident in its fragmentation and organizational silos. A siloed service system hinders the management and employee decision-making that helps build services around user needs (Osborne 2020; Rossi and Tuurnas 2021). Accordingly, we approach facilitating social equity in public services as a systemic challenge that cannot be resolved in single organizations or by individual professionals.

A SID model describes a strategic leadership format designed to strengthen a systemic approach in public services (see Osborne 2020; Osborne et al. 2022). A systemic approach requires practical frameworks and methods, such as a SID, to make it applicable in real-life contexts (Ansell and Torfing 2021, 212–213; Haynes et al. 2020, 70–71). SID is a co-creative design process for an interorganizational network. The model aims to help build a management structure that ensures the

CONTACT Sofi Perikangas sofi.perikangas@uwasa.fi
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uninterrupted flow of public services for the most vulnerable citizens. The theoretical framework of this study is built on literature on collaborative management, co-creation, and design to explicate the need to approach social equity issues in public services through a systemic approach and interorganizational collaboration. Specifically, we focus on the design process of a network within a collaborative management framework.

Against this backdrop, the research question of the study is: *How can a design-led approach help managers and professionals working in public-service systems recognize and reduce barriers to social equity?* A case study depicts a SID process to co-create a structure for a network that would ensure the continuity of support for short-term prisoners in Finland. The research contributes to the theory building on social equity in complex service systems and the design and management of public-service networks (see, e.g. Löffler, 2015; Petrescu 2019; Rossi and Tuurnas 2021), specifically by proposing a method for the design of a collaboratively led system. This research also offers a less-studied perspective on design as a principal method of enhancing collaborative management. Moreover, we contribute to the body of knowledge on the design of social equity in public services, which is a limited segment of the literature on equity (Cepiku and Mastrodascio 2021, 1028; Cepiku et al. 2020).

First, we introduce the collaborative management framework and how social equity, co-creation and design link to it. Next, we introduce the case underpinning the study, a project with short-term prisoners in Finland. We then explicate the service integration process conducted to create a solid service path for short-term prisoners. Finally, we discuss how the SID model applies collaborative management in practice to enhance the dimensions of social equity and how public-service managers and professionals can recognize and reduce barriers to social equity. Overall, this study shows how a structured and designed process can benefit the social equity of vulnerable groups, in our case, short-term prisoners in Finland.

Designing collaborative management to enhance social equity

Social equity and the complex service system

Social equity can offer a standard by which public administrators assess and evaluate their behaviour and decisions. On the other hand, it could be a criterion for effectiveness in public administration as efficiency, economy, productivity, and other criteria are (Frederickson 2015, 41). This article references Brunet (2011, 167–168, 173) by focusing on three different social equity dimensions that we see as relevant criteria for an effective public management network. Although the dimensions outlined by Brunet lean heavily on the assumption of equal treatment in the administration, we instead consider the social equity dimensions through the assumption of equity where a selective concern is targeted towards those most in need of assistance (Van Hootegem, Abts, and Meuleman 2020, 258). The first social equity dimension, *procedural fairness*, requires administrators safeguard the due process rights of individuals. The process should be available to everyone but be tailored to individual needs. The second is *distributional equity or access*, which focuses on the provision of services in a manner that benefits those who are disadvantaged in the process. The third is *quality*, which ensures consistent quality services, no matter which organization of a service network is responsible for the individual services at the time. It is possible to

assess agency performance on each aspect of social equity (Brunet 2011, Van Hootegem, Abts, and Meuleman 2020).

Finland has a complex, multifaceted, diversified, and partially fragmented social and healthcare service system. There is a lack of communication and collaboration, overlapping roles and responsibilities, and rejection of services by organizations. Such fragmented and localized systems can hinder nurturing social equity and particularly affect the most vulnerable (Brunet 2011; Määttä 2012; Tuurnas et al. 2015). Overcoming these issues requires key actors within organizations to change their thinking (Dickinson and Glasby 2010; Haynes et al. 2020) and also structural solutions to tackle social equity challenges.

Collaborative management as a framework for tackling systemic equity challenges

A proven way to advance social equity is to adopt a long-term perspective and commitment, a strategic plan incorporating the different dimensions of social equity (Brenman and Sanchez 2012, 150). Ensuring the social equity of vulnerable service-user groups requires new collaboration structures (Ferraro, Etzion, and Gehman 2015). Providing functional and coordinated services requires clear organization of the input of different actors, the evaluation of results, and the ability to steer a multifunctional service system (Crawford 2012, 55–56). Collaborative management offers a framework to drive a multifunctional service system. It fosters negotiation, joint decision-making, promoting inclusion, and seeking solutions extending beyond the scope of an individual organization or a sector, which thus provide opportunities to develop the whole service system. It is about managing interdependencies between professionals who lack sufficient decision-making power in relation to each other (e.g. Fimreite and Lægreid 2009, 285; Kickert, Klijn, and Koppenjan 1997, 9; Määttä, Harkko, and Kalm-Akubardia 2019).

Collaborative public management, collaborative governance and network governance research and literature fall easily in the same category (see ie. O'Leary and Vij 2012), but they do also have signifying differences, that are related to their causes and results (Kapucu, Yuldashev, and Bakiev 2009, 51) In this article we use the concept of collaborative management where the focus is on understanding and managing interdependencies between public, private, third sector and non-profit actors. A range of actions from these actors will be required to promote social equity, depending on which dimension of social equity is pursued. The action areas might include the performance of governmental agencies, delivery systems, and the attitudes and conduct of administrators (Svara and Brunet 2020, 352–353).

Solving complex social problems in a service system requires horizontal and vertical communication and coordination, combining collaborative negotiations on a horizontal level and decisions on an organizational one (see Axelsson and Axelsson 2006; Fimreite and Lægreid 2009, 285; Kickert, Klijn, and Koppenjan 1997, 9; Määttä, Harkko, and Kalm-Akubardia 2019). Collaborative management is built on the understanding that there is a resolute interdependence among all actors (Kapucu, Qian, and Khosa 2014, 4; Lægreid and Rykkja 2022). Accordingly, it extends decision-making power to the structural level and makes it possible to combine services, knowledge, and methods to address the challenges affecting joint-service users in

a vulnerable position (Lægreid and Rykkja 2015; Määttä, Harkko, and Kalm-Akubardia 2019).

Although prior research suggests traditional leadership and its specific tools can lead to misunderstandings over the purpose of interorganizational collaboration (see, Tuurnas, Stenvall, and Rannisto 2016), and the potential value of services can be destroyed by collaborative processes (see Engen et al. 2020). Therefore, a functioning, collaborative network needs jointly defined, clear goals and systematic collaboration designed through mutually agreed structures and practices to enhance social equity.

Brenman and Sanchez (2012) use the term *social equity intervention*, which is a planned and resourced action to 'correct a social wrong and improve the situation' of a vulnerable group. Interventions can seek to break the chain of causality of a complex problem. Social equity interventions are action-oriented, and design is a central quality. The design work can involve establishing standards, analysing problems and potential, setting goals and improvement priorities, and specifying the activities of an improvement programme. Administrators can utilize tools such as an SID to plan such social equity interventions in collaborative settings. In this article, we describe an SID in use and address its qualities that enhance social equity.

Service integration design model to facilitate collaborative management

The SID model was designed specifically to dismantle complexity and unnecessary power structures and enhance trust and collaboration within an interorganizational network (Kostilainen et al. 2020). The process is later described through a real-life case. It is based on the principles of collaborative management and offers a systematic way to solve complex and intertwined problems by building of collaborative management structures for a goal-oriented horizontal and vertical network (O'Leary and Vij 2012). SID applies a systems approach to planning of a collaborative management network. Haynes et al. (2020, 71–72) suggest that a systems approach can support the processes of organizational change: cross-sectoral and inter-organizational collaboration can produce central value, the systems approach can change the way participants think rather than what they know, and the processes and collaboration can help participants see different opportunities. System-focused tools and methodologies can help teams to focus their work and convince those in power to support it.

SID has several similarities with the goal-oriented collaborative public management outlined by Eriksson et al. (2020), the participatory process described by Bryson et al. (2012), and the collaborative governance framework described by Emerson et al. (2011). Accordingly, the process identifies the joint problem and goal involving relevant stakeholders, encourages leadership, creates rules and structures, and applies inclusive methods to drive joint action.

An SID model uses a co-creation approach to engage parties in the design of a service network (Perikangas et al. 2022, 230). In this study, co-creation is defined in a classic sense as an instance of creative activity involving two or more people (Sanders and Stappers 2008, 6). Brandsen and Honingh (2018, 14) describe co-creation as the initiative and strategic phase of service planning. It involves assembling the relevant stakeholders to work towards a mutually agreed goal. In our case, the stakeholders are managers and professionals who need a joint management system that structures and legitimizes their work in a way that helps offer services to a certain

vulnerable service-user group. According to Botero and Hyysalo (2013), a typical aspect of co-creation is the design or planning work on a platform produced by the designers. Service integration design offers an institutional arena for collaborative management through a workshop format (Ansell and Torfing 2021).

Service integration design also makes it possible to (re)distribute the roles and the decision-making power in and between those organizations that design the collaborative network. Decisions on addressing social equity issues as problems that public-service agencies should solve sit with those who hold power (McCandless et al. 2022, 143). Accordingly, any SID process must involve top management and managers with decision-making power. It is they who will have to make joint decisions on roles, responsibilities, resources, integration, and communication on a system level (Agranoff and McGuire 2003, 177–178; Hujala et al. 2020, 131–134; Määttä, Harkko, and Kalm-Akubardia 2019).

In SID, the emphasis is on designing a collaborative network that contributes to systemic change in the practices and culture of organizations. It is easy for public administrators working in a siloed system to forget that their actions and the values embodied in their management influence the impact, effectiveness, and equity of government (Svara and Brunet 2020, 353). By opening the service system of a vulnerable service user to a wider network and creating shared knowledge and a shared structure, the design process offers an option for actors to enhance the social equity of the relevant service-user group. The current research presents the case of short-term prisoners in Finland, an SID process, and questionnaire and interview data to examine how a design-led approach can help managers and professionals working within complex public-service systems to recognize and reduce barriers to social equity.

Context of the study: short-term prisoners' service integration in a complex service system

The national institution providing all prison services in Finland is the Finnish Criminal Sanctions Agency (CSA). The CSA defines a person sentenced to under six months in prison as a short-term prisoner. Such sentences are typically connected to drug and alcohol abuse but can also result from unpaid fines. The case in this study focused on a group of prisoners who suffer from alcohol and/or drug abuse and need treatment. Such people typically have several other problems in life as well.

Compared to many other service-user groups, knowledge of the service needs of short-term prisoners is difficult to obtain because they are typically outside the service system when not in prison. The position of these prisoners is especially vulnerable because they are typically societal outcasts, suffer from the consequences of drug misuse, have financial problems, and are more ill and in greater need of healthcare services than other prisoners (Wuolijoki et al. 2011). They spend a brief time in prison but are more likely to re-offend and return to prison. Studies show that short-term prisoners have fewer opportunities to receive the optimal treatment in or between periods of imprisonment than other groups of prisoners (Pitkänen et al. 2016; Tyni 2015).

In Finland, several national and local institutions ensure that individuals receive treatment during rehabilitation. In a fragmented system, rehabilitation is the sum of a process including diagnoses, services, guidance, and decisions made on an

organization-by-organization basis. Individually made decisions reduce the chances of successful service delivery (Määttä and Keskitalo 2014; Pulkki et al. 2011). There are not sufficient collaborative structures or networks to advance the treatment of short-term prisoners through rehabilitation, which leads to prisoners dropping out of rehabilitation programmes or being denied a chance to enrol at all. One result is that the same people repeatedly return to prison for short periods and never manage to secure treatment for their problems because it is unclear which institution (healthcare or the prison) is responsible for that treatment (Laurila et al. 2021).

To tackle these problems, the CSA established a design-led project titled *Short-Term Prisoners* that ran in 2021–2022. The project aimed to renew interorganizational collaboration, deliberate on structural changes, and manage collaboration between professionals to ensure smooth multi-sector service pathways could provide rehabilitation for short-term prisoners. The CSA collaborated with public social and healthcare institutions to renew the service system for short-term prisoners. Those contributing to the design process were carefully selected from among professionals and managers with the power to enhance short-term prisoners' experiences prior to rehabilitation (see Appendix I).

This case study relates to a two-day workshop, an SID process, held at the beginning of the short-term prisoners project in 2021 and continuing into the following year. The case of short-term prisoners' service integration presents a descriptive case study approach, as the case relies on descriptive theory and has a theory-driven focus (Tobin 2010; Yin 1993). Moreover, the case study approach can be described as instrumental (Stake 1995) in that it involves the case being applied as an instrument to investigate something other than the case itself.

Data collection and analysis

As is typical of case studies, several types of material combine to form the data (Tobin 2010). Data triangulation in the form of narrated experiences from three sources revealed the participants' experiences of the SID process. We wanted to understand how the process had enhanced change in the organizations. The research data consist of the answers to questions put to participants in the SID process ($n = 15$), interviews with the two facilitators of the process, and with its key stakeholders and representatives (Appendix II).

The participants received a link to an anonymous questionnaire approximately two weeks after the co-creation events had concluded. The questionnaire dealt with the process, expectations, and experiences of the SID process. Immediately after collating the questionnaire results, one of the researchers conducted a reflective interview with the two facilitators of the SID process. The meeting aimed to elicit the experiences and interpretation of the SID process and an assessment of the most valuable factors from the facilitators. The researchers also conducted four reflective interviews with key actors representing professionals and managers in the SID process approximately one year after its completion over the summer of 2022. The interviews aimed to determine how the service integration and network approach had been implemented and what aspects of the SID process had been most beneficial. In addition, the interviews sought to address whether the process and its implementation had advanced the social equity of short-term prisoners.

The key parties to the reflective interviews held project management, project coordination, social work management, and short-term-prisoner supervisor roles. They represented different organizations or parts of organizations connected through the network of managing short-term prisoners. They also represented both the horizontal and vertical levels of the service system. The project manager and coordinator had a holistic overview of the project acquired by initiating the SID process and working with all the organizations within the network. Their roles also included advancing the interprofessional work planned during the SID process. The manager of social work in healthcare services and the prison social worker both had a perspective on their own work.

Figure 1 illustrates the data and the analytical process. We used thematic analysis to identify, analyse, organize, describe, and report the themes discovered in the data (Braun and Clarke 2006; Nowell et al. 2017). We used *concepts coding* as our first-cycle coding method (Saldana 2016, 119). The method involves building on an understanding of the process of SID and focusing coding on conceptual ideas rather than single actions. The next phase of the coding process applied provisional coding (Saldana 2016, 168). After the first-cycle coding process that focused on SID, a researcher-formulated conceptual framework was used to build the coding structure. That structure made it possible to build connections between the codes to create themes.

The units of our analysis were the sentences and word groups formulated by the interviewees, and their meaning was formed around the three dimensions of social equity. We analysed the main themes of the SID process and collaborative management as an outcome against the different dimensions of social equity. We identified themes related to the change in communication and collaboration, roles and power relations, and practices and culture in the actor organizations. The final report on the analysis includes interview excerpts that help bring the report

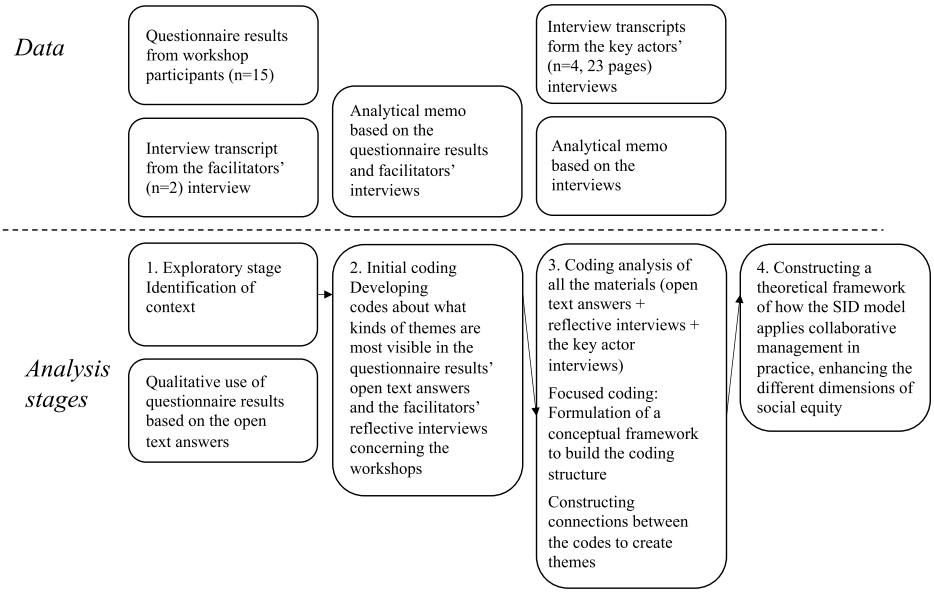

Figure 1. Coding process and the analysis stages of the data.

of the case alive. As Patton (2002) notes, such excerpts also help to capture the interviewee's views in their own words. The quotations also increase the robustness of the analysis and show that the interpretations have arisen from the data (Eldh, Årested, and Berterö 2020). An extensive table of quotations can be found in Appendix III. The quotations have been translated from Finnish into English by the researchers in such a way as to preserve their meaning but ensure readability.

Description of the SID process

The pre-understanding of the creation of the SID was that the presence of service silos meant the structures of organizations would not change without the management of collaborative networks and collaborative goal-setting (Lægreid and Rykkja 2022, 695). The SID process aimed to deliver a clear understanding of the specific needs of a vulnerable service-user, the participation of professionals from different sectors, an atmosphere to enhance dialogue to elicit needs and concerns, and also provide tools to set goals and build new working methods and structures. The process is divided into four stages that address that setting.

Stage 1: preparatory actions for the workshops

Before the workshops, the facilitators and CSA defined a tentative goal for the design process: the expected outcome was a collaborative network in which each actor recognized their own and each other's roles and could work together within the public-service system. The starting point for collaboration was to obtain a clear picture of the needs of the service-user group, short-term prisoners. A description of the problems and needs of the service-user group was obtained prior to the workshop through a vignette titled *Hande*, which was created by the CSA and the facilitators. Vignettes are short stories of service-user group-specific service system encounters, providing an impersonal way to comprehensively describe the situations facing vulnerable people (Barter and Renold 2000). The example case of Hande, a short-term prisoner (for a detailed description of Hande, see Appendix I), is not a story of one person but a combination of experiences of vulnerable people who suffer from drug and alcohol misuse, lack of income, homelessness, and other social problems (Taylor 2006, 1187). After the service-user experience was encapsulated in the Hande vignette, workshop participants were asked to familiarize themselves with it before the workshops.

Professionals and managers involved in the different stages of Hande's support path were invited to participate in the workshop. The people chosen to collaborate had interdependent roles in various sectors, such as social workers evaluating service needs. The determining factor was the service user linking the actors together. Managers were key participants because of their decision-making mandate on the organizational level that contributes to outcomes on a structural level. The most important role of the managers was to jointly make organization-specific decisions that influenced the whole interorganizational system. Those decisions related to the service user's whole service pathway, not merely the span of the prison sentence. The workshops focused on collaboration negotiations between actors on a structural level; thus, service users were not involved.

Stage 2: workshop day 1, analysis of the status quo

The process involved 30 participants divided into three groups of ten. Each group included professionals from different organizations and who held different positions. Participants started by describing their role in the context of the Hande vignette. They discussed the actors involved in Hande's case and their roles, responsibilities, working methods, abilities, and concerns. Participants were asked to note where there was overlapping work and pinpoint where the responsibilities of actors were unclear.

Next, the participants identified critical transition phases and key players whose roles affected the ability of other actors to support a joint-service-user group. Suggested transition phases included making a diagnosis, providing rehabilitation, and granting income support. The process unveiled overlaps and issues with the collaboration and intervention stages where *Hande* was at risk of being diverted from support. By the end of the first day, best practices and challenges had been identified, and a shared goal formulated.

Stage 3: workshop day 2, Target setting

Participants defined a shared goal and formulated the best possible user journey in the service system for Hande. Participants identified the common need for change and the means to initiate the journey. They identified all the actors needed to provide sufficient support, their roles and responsibilities, and which changes and decisions would have to be made to achieve that. They were asked to co-create an ideal model of collaboration that would make the most of the competence in the network. The necessary changes, specific steps, and the decision-making supporting them were jointly defined in the course of the work. All actors involved determined the cooperation objectives and agreed on the division of labour and roles within the collaborative network. At the end of the workshop, the participants shared their understanding of the challenges and opportunities facing the network.

Stage 4: post-workshop outcomes

After analysing the status quo, the participants outlined measures to reach the target. The facilitators of the SID process prepared a report on the workshop results. The implementation of the pilot programme began after the workshop and was guided by a complete analysis of the status quo, an ideal model for a collaborative network, and a description of measures to deliver the shared goals.

Results

The previous section described the SID process and its outcomes in detail. Below we examine the questionnaire and interview answers and assess how the different design elements of SID can enhance social equity. The open-text answers on the questionnaire revealed the most prominent themes in the participants' minds related to the elements of communication and collaboration in SID. In the interviews, the most comprehensive answers to questions came from the professional and project worker interviewed, who had both worked closely with the service users. The two managers ideas on how the SID process could help professionals in their everyday work or how it might affect short-term prisoners were more vague. They did, however, have a stronger focus on the structural level changes and prospects. A common feature of all the interviewees answers was topics concerning roles and decision-making power.

Communication and collaboration enhancing equity in terms of quality

The main characteristic of the SID process was creating an understanding among the professionals relating to a joint-service user. This network of organizations played a key role in clarifying the service path for the prisoners, defining tasks, roles and responsibilities between professionals and managers, and establishing collaboration and communication networks and structures between them. A questionnaire distributed after the SID workshops focused on how the process had helped advance communication and collaboration. In an open-text answer to a question on the main thoughts arising from the SID workshops, an anonymous respondent said: *'The[SID] process helped to start collaboration at the beginning of the project'*.

Over a year, a change from working in silos towards creating a more communicative and collaborative network was perceptible from the key actors' interviews. The change helped the CSA staff understand the interconnectedness of professionals. They realized how the people they are responsible for are vulnerable and need holistic care before, during, and after their sentences. A project worker (interview code INT01) put it as follows: *People used to work totally in silos at the CSA, and they didn't really understand that the client also had a life in the society. I feel that the awareness of what we do and why we do alcohol and drug rehabilitation during imprisonment has increased after the [SID process]*. This observation indicates that creating a structure for collaboration and communication can help professionals ensure the quality of services for service users in situations where the quality of the service in different organizations varies. Some professionals clearly did not know the options available to their customers to help with their problems.

Throughout the SID process, the organizations agreed upon communication practices within the network. Familiarization and trust built in the co-creation process strengthened the incentives of interaction. The threshold for communication was lowered, which enhanced collaboration. Previously, the appropriate people could not be reached when interorganizational expertise was required. For example, a prison social worker (informant code INT02) described how the previously siloed responsibilities and lack of contact hindered collaboration: *In the workshop, we discussed how it is sometimes very difficult to create [a collaboration] network because work in the city is so siloed. But now I think that collaboration has become easier. We have more contact details that are frequently updated*. Enhancing social equity through communication and collaboration means that objectives must ensure consistency of service, regardless of organization. This must be instilled in the creation of a collaborative management structure.

Another reason the collaborative management network was set up was the short-term prisoners' need to have decisions on services or benefits expedited so they could advance in the treatment process during the short period of their sentence. The SID process provided the organizations with tools to foster communication and collaboration, which resulted in the employees acquiring an improved understanding of the impact collaborative management could have on the efficiency of the treatment processes of short-term prisoners. When decisions could be made holistically in interorganizational teams, the decision-making on prisoners' service pathways now occurred earlier. INT01 said: '*We've started to plan the external placements earlier, during the evaluation of service needs. It is great to see that the municipalities take part and often pay for the treatment programmes*'.

Roles and decision-making power enhancing access to services

An integral part of the SID process was clarifying organizations' roles and ensuring the staff involved had the requisite knowledge and decision-making power relating to the prisoners' process. Access to services could be pursued by ensuring the people in the appropriate roles made timely decisions. Decision-makers understanding the impact of their decisions and procedures on other professionals on both the organizational and systemic levels helped nurture more user-oriented practices. That progression was another step towards equitable, collaborative management.

In an interview after the SID process, INT02 stated, *'I have been given the freedom to plan my own work. I have had a chance to influence how it looks and is'*. As a result of the SID process, employees enjoyed greater work autonomy. They could also start implementing plans, resulting in strong ownership and influence to enhance joint processes for short-term prisoners. Respondent INT01 actioned providing staff with the skills to work independently and collaboratively with other organizations: *'[The social workers conducting evaluations in healthcare] didn't trust themselves to lead the collaboration, so I took part in those [meetings] a lot [initially]. They wanted me to teach them how to lead. It has changed so that some workers don't ask me to participate anymore. They keep me updated on where we are going with each client, but they now have the courage to lead the collaboration'*. The change enhanced the negotiation power of the professionals, and establishing a collaboration structure during the SID process led to collaboration with other organizations becoming more effective, producing better results in terms of safeguarding services for short-term prisoners.

The approach of the informants towards the decision-making processes on the rehabilitation of short-term prisoners differed depending on whether they had a management role or worked directly with service users. The managers had a more instrumental perspective; however, all agreed that the employee working directly with the service users had to have sufficient decision-making power to advance the process, but management were expected to sanction their decisions to ensure the process was lawful and equitable. A manager from the CSA (interview code: INT03) stated that: *The most important changes in [the treatment of prisoners] have been that we have changed our internal processes so that planning responsibility has shifted to the staff working directly with the prisoners. We can move forward faster, and the same employees proceed with the prisoners [throughout the whole process]. The process has become better*. Not only were the horizontal level collaboration and clarification of roles beneficial to the short-term prisoners' process, but so too were the vertical decision-making processes that had been clarified because of the SID process. Tangible benefits could be seen in just one year:

A prison social worker (INT02) reported how there was now a mutual understanding and collaboration at the vertical level of decision-making: *I'm the one who prepares the processes. And then we have a supervisor who presents, and then a manager who makes the final decision. . .I think that we all have our own approach to the issue. I think that is what can help in the success [of the prisoner's treatment]. . .there are things that supervisors look at from the perspective of safety, and I look from the perspective of rehabilitation. We work together, and of course, there are situations where we need to negotiate a bit, but I think our differences are valuable, and we communicate openly*. For that interviewee, the value of the SID process manifested in terms of shared leadership and its effects on short-term prisoners' service processes.

Practices and culture shaping procedural fairness

The SID process helped the workshop participants understand their roles as part of a bigger system. It aimed to locate key players whose potential operational impact was more significant than others. Having such key players with considerable power over decisions could also be fatal in terms of equity. For instance, some key actors had a decision-making role where they could work as gatekeepers concerning the distribution of services, whether they were aware of it or not. Respondent INT01 voiced concern over such roles: *'If the core people who do this don't learn how to send service users to rehabilitation, who does this when the project ends? . . . They need our project workers in prisons to support the work'*. In these cases, short-term prisoners were in danger of missing out on equal treatment because of a lack of information or cultural prejudices built into the system. The SID process made these key actor roles more visible.

Advancing social equity can be viewed as improving procedural fairness, which can be damaged by discrimination against short-term prisoners. INT01 stated: *'Some prisons do not send inmates to rehabilitation [if they have] a positive drug test [result]. We have tried to bring this and other issues forward in prisons. . .But it's like talking to the walls'*. In addition, INT03 noted: *'I can imagine that [short-term prisoners are] a group that is not so wanted because of the alcohol and drug problems. But through this project, I hope the municipalities also see [rehabilitation] as a valuable use of resources'*.

All the interviewees saw challenges in offering rehabilitation for short-term prisoners. On the management and coordination level, the informants felt that significant changes were needed at the organizational and even regulatory levels. Moreover, the interviewees suggested that both attitudes towards substance abusers who were imprisoned and the culture must change. Respondent INT03 noted, *Certain professionals have certain practices that do not necessarily fit with our processes, which is why we can't take service users forward in the process and on to rehabilitation quickly enough. We discussed it, and last time they said that they had received so much feedback that they started to think that their system was not user-centric. Hopefully, there will be changes in the future*. The collaborative management system is effective when there is a commitment between the organizations and all actors in the system to follow the shared vision and change their practices accordingly. When a network is voluntary, even one actor not committing to the goals can jeopardize the whole process.

Nevertheless, the project was perceived to have had a positive impact after just one year. As INT02 said: *We have taken short-term prisoners into consideration more. . . . We have long known that short-term prisoners are the group that returns after imprisonment, they are here many times, and the faces become familiar. They have been very pleased, and we got much positive feedback [from prisoners] because of enabling more rehabilitation.*As INT01 noted, long-term systemic change is required for short-term prisoners to be able to access services on an equitable basis: '*This practice needs to be regularized, it must have clear structures, and everyone should have a chance to go to rehabilitation'*.

The continuity of the project and its funding were seen as integral to the successful continuation of collaborative management. INT02 said: I absolutely hope that the project can continue after this year. Or if not the project, the financing should continue. We have put so many people in rehabilitation now, which has been great to notice. It will be a shame if the financing ends. I hope that despite the project ending,

the collaboration continues with the municipalities in the same way. We have made work to develop the collaboration, and it can continue well in the future. . . . I believe that we have been able to offer equal opportunities for rehabilitation. If the municipality doesn't finance rehabilitation, we have our own project budget that we can use. And the municipalities have participated well in the service phase after the rehabilitation when organising the continuation of rehabilitation and service paths. I have been very positively surprised by that.

The results of the feedback questionnaire collected after the workshops indicated a similar need for continuity (through funding). A participant stated that after the creation of structures, roles and responsibilities in the network, '*the eternal lack of resources was left*'. The resource issue relates to the question of distributional equity but is not necessarily something the network could resolve, as it is primarily a public policy problem.

As a design-led approach, SID encouraged combining resources to generate desired results. The professionals and their managers made decisions collaboratively on changes to the network's vertical and horizontal specializations and coordination. These changes were subsequently applied in practice. The more holistic approach changed both individual and network roles of professionals and strengthened service-user-centred orientation and, therefore, helped the professionals and managers contribute to the social equity of short-term prisoners. Vertical decisions were made, and horizontal collaboration was improved in various ways. Moreover, informants reported that their understanding of each other's tasks, work processes, and management needs across sectors had improved.

Discussion

The current research addressed social equity through the dimensions of quality, access and procedural fairness (Brunet 2011). First, the results show that social equity in terms of quality of services can be advanced through communication and collaboration. Achieving that involves getting to know each other's work, building trust and the motivation to work together, and creating structural solutions to address problems within the network (Emerson, Nabatchi, and Balogh 2011). Knowledge is co-created through cooperative action, and during the SID process, the actors recognized each other's roles in the collaborative network (Struminska-Kutra and Espeland 2020). The shared understanding of the impact of separate decisions in organizations facilitated the negotiations on the network level.

By enhancing collaboration between organizational actors, SID can provide an effective tool for collaborative management. It supports creating a shared vision and values, noticing interdependencies and overlapping responsibilities, creating mutual respect and effective communication, and promoting synergies between parties (Ansell and Torfing 2021; Emerson, Nabatchi, and Balogh 2011; Lawrence 2017, 91). Therefore, we consider communication and collaboration elements that must be designed for collaborative management to ensure social equity through providing services of sufficient quality (see Brunet 2011).

Second, the distribution of work and understanding of each others's skills are key in determining roles and decision-making power to advance social equity as access. An organization must then have a participatory and open form of management that enables dialogue and joint reflection and creates the space to make changes at the

level of job descriptions or the organization (Archer and Cameron 2013, 9; Frederickson 2015, 47). Clearly stated roles and responsibilities can help create solid service paths and structures and prevent the duplication of resources (Määttä 2018, 36). Commitment to social equity requires organizational and political forms with the capacity for continued flexibility or routinized change within and between organizations (Frederickson 2015, 8). Such progress would require clarifying the roles and responsibilities of each actor, ensuring decision-making power is distributed equally, furnishing people with appropriate skills, and offering them tools to build confidence in their work.

Third, the results reveal that the practices and culture of the network shape the procedural fairness of the process. Jos (2016) states that interorganizational and cross-sectoral networks could advance social equity by ensuring procedural fairness. Prejudices and administrative barriers were key themes that could bar short-term prisoners from social equity. At the same time, there had already been changes in practices and culture that signalled a broader transformation over time. A systemic approach highlights the importance of understanding public services as nested consortiums of challenges and opportunities, where collaboration is required to tackle the multifaceted problems of service users. However, the system can also destroy opportunities by encouraging optimization, power games, or the avoidance of responsibility (Tuurnas et al. 2015). Accordingly, the culture around decision-making practices in organizations should change to require administrators safeguard the due process rights of individuals, and even tailor the services when needed. Administrators could advance social equity by ensuring procedural fairness is integral to their everyday work (Jos 2016, 761).

Organizational cultures that enhance social equity can be reinforced through frequent and sustained communication, honouring commitments, sharing information, and acknowledging mistakes (Jos 2016, 771.) All that can benefit multiple service users like short-term prisoners, who should be offered appropriate services promptly without prejudiced gatekeepers hindering efforts. The sustainability of collaborative management lies in the willingness and abilities of organizations to create long-term networks around the different public services. Nevertheless, the role of management in facilitating the opportunity to work collaboratively must be considered.

Matrix management is one of the most difficult management structures to apply (Axelsson and Axelsson 2006, 323–325; Mintzberg 1993). Commitment to a joint project can be encouraged by providing participants the widest possible ownership and the tools to establish collaboration. A method-based approach, such as SID, can offer missing tools to achieve structural changes for managing the public-service system, thus advancing social equity. An operationalized, step-by-step collaborative process helps identify ways to manage and lead collaborative networks.

Accordingly, working through the SID model resonates with the idea that these arrangements operate in complex systems that follow nonlinear patterns and must be fully understood before initiating action (Waddock et al. 2015). Service integration design offers a framework to aid in disentangling the complexity of complex service systems, thus creating chances for designing the systems more equitably (Ferraro, Etzion, and Gehman 2015; Lægreid and Rykkja 2022). This research suggests that a designed co-creative process – applying collaborative management in practice – can offer a systematic way to collaborate on all organizing levels and interorganizational networks, thus enhancing social equity. Accordingly, we propose a framework that visualizes the systematic approach (Figure 2).

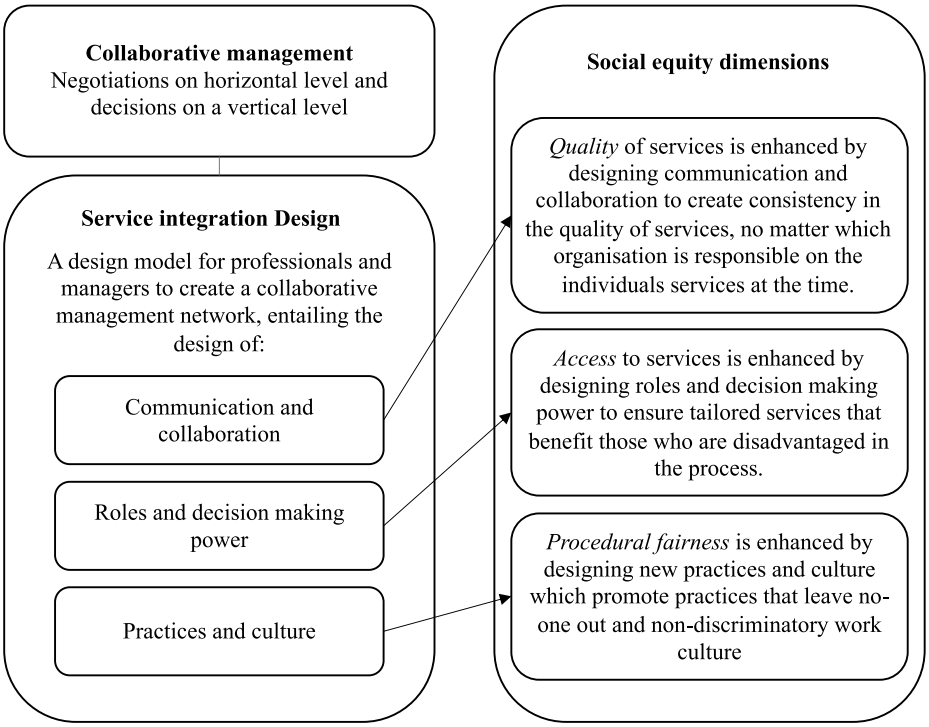

Figure 2. Proposed framework of how the SID model applies collaborative management in practice, enhancing the different dimensions of social equity.

Overall, we argue that co-creation tools could tackle the interdependency aspect of complex problems. Such tools can help support public social health care and employment systems to re-combine existing organizations and resources to improve systemic functioning and collective effort. These tools consider the different roles in enabling systemic human-centric change and public sector innovations (Bason and Austin 2021). Because SID can dismantle complexity and create structure and communication channels between actors, it can be a tool utilized to enhance the equitable treatment of short-term prisoners from a systems perspective (Haynes et al. 2020, 71–72).

Here, social equity manifests in each step of the process in a different way and is in a continuous improvement cycle aligned with the process of planning public-service management (Frederickson 2015, 91). Accordingly, SID can also offer a roadmap for organizations. Being a deliberate process, it includes working towards a goal in a rational way via certain steps. Planning and improvement are strongly related, making the planning work by systematic steps a systemic future-oriented process (Brenman and Sanchez 2012, 150). As such, the design-led approach offers concrete tools for public-service organizations that deal with complex service integration processes (Ansell and Torfing 2021, 218).

This study has some limitations that arise from dealing with a limited number of interviewees, which prevents drawing generalizable conclusions. Nevertheless, a small-sample study provides an opportunity for researchers to acquire detailed knowledge and learn and develop theory (see Crouch and McKenzie 2006). It is

also important to acknowledge that the process was affected by restrictions in place due to the COVID-19 pandemic at the time, complicating the planned follow-up to the initial process. In addition, the missing voice of the short-term prisoners in the evaluation of the longer-term results of the SID process can be considered a limitation since we only hear the professionals' and managers' perceptions. Nevertheless, that limitation does not prevent drawing conclusions on the usability of the SID process as a management design model and its implications for social equity.

Conclusion

This article asked how a design-led approach might help managers and professionals in public-service systems recognize and reduce barriers to social equity. It is a topical question that recent research has proposed should be studied (Osborne et al. 2022). By explaining the kinds of action managers and professionals would need to take to enhance social equity and how their implementation can be designed by focusing on different themes, we make a theoretical contribution to the discussion of how social equity can be addressed by public administration on the level of a complex service system (see Cepiku and Mastrodascio 2021). The examined case showed how the SID model could enhance different dimensions of social equity by designing communication and collaboration to promote the achievement of a common goal, align professional and organizational roles and goals, and clarify the necessary structural procedures on a horizontal and vertical level.

The current research indicates that a systematically designed collaborative network could address problems related to interorganizational work by offering tools to re-evaluate the system when necessary (Rossi and Tuurnas 2021). This research reveals that a systematic design process can illuminate pathways enhancing social equity. Nevertheless, we cannot say whether the network from our case description has fully adapted to the collaborative management approach. Organizational and cultural transitions are so slow that fundamental changes can be seen only after a longer period. Moreover, it became clear that even though it is important to acquire the support and ownership of management in a service creation model with the experts, the professionals who are going to implement the new ideas need to be strongly present too, and their roles and decision-making power should be clearly communicated.

Finally, the study can be used to aid practitioners' work. Utilizing a co-creative design model can prove a stepping stone for practitioners seeking to create a public-service network, offering concrete tools to enhance social equity on a system level. The SID offers an analytical and practical tool, especially for public-service management. We stress that management can advance social equity in several ways – through collaboration, changes in structures and practices, and leading on both horizontal and vertical levels (Bihari Axelsson and Axelsson 2009; Bryson et al. 2012; Emerson, Nabatchi, and Balogh 2011; Eriksson et al. 2020; Lægreid and Rykkja 2022). We suggest future research paths might include a comprehensive practical analysis of collaborative management concerning social equity from a systems perspective. We also encourage researchers to analyse the role of design in advancing social equity in public-service systems.

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Appendix

Appendix I: Vignette: Comprehensive need for support – low motivation

Hande

Hande has three prison sentences of less than six months in length and four fines/imprisonment terms on the past register. Hande's first conviction was at the age of 18. Hande now faces another two-month prison sentence and has just arrived to serve the sentence at Helsinki prison.

Background and current situation:

Homeless, unemployed, and in debt, Hande is lodging with friends who constantly consume alcohol and other intoxicants. Hande's social network consists mostly of substance abusers, and there is little contact with family.

Hande has scarcely been in contact with the municipality's social work department and has often not attended scheduled appointments with social workers. Social workers have not reached Hande due to changing phone numbers and Hande not picking up mail. Hande has issues handling the rhythm of life and basic everyday skills (e.g. paying bills). Hande has rent arrears of €1500. Hande lives on basic income support, which has already been downgraded a few times because Hande does not maintain the search for a job. No mapping has been carried out on Hande's health condition, and there is reportedly no contact with health care.

Hande missed parts of elementary schooling and dropped out in the final term of the ninth grade. Hande does not want outsiders to know about the substance use, feeling it is under control. Hande is often indifferent towards other people, especially the authorities. Hande denies responsibility for actions and feels issues are down to circumstances or other people.

Co-production of social innovations and enabling ecosystems for social enterprises

Sofi Perikangas
School of Management, University of Vaasa, Vaasa, Finland, and
Harri Kostilainen and Sakari Kainulainen
Diaconia University of Applied Sciences, Helsinki, Finland

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Abstract

Purpose – The purpose of this article is to show (1) how social innovations are created through co-production in social enterprises in Finland and (2) how enabling ecosystems for the creation of social innovations can be enhanced by the government.

Design/methodology/approach – This study is a descriptive case study. The data comprises focus group interviews that were conducted during a research project in Finland in 2022. The interviewees represented different social enterprises, other non-profit organisations and national funding institutions.

Findings – Social enterprises create social innovations in Finland through co-production, where service innovation processes, activism and networking are central. Also, to build an enabling ecosystem, government must base the system upon certain elements: enabling characteristics of the stakeholders, co-production methods and tools and initiatives by the government.

Originality/value – The authors address an important challenge that social enterprises struggle with: The position of social enterprises in Finland is weak and entrepreneurs experience prejudice from both the direction of "traditional" businesses and the government which often does not recognise social enterprise as a potential partner for public service delivery. Nonetheless, social enterprises create public value by contributing to the co-production of public services. They work in interorganisational networks by nature and can succeed where the traditional public organisations and private businesses fail.

Keywords Social enterprise, Coproduction, Social innovation, Ecosystem

Paper type Research paper

Introduction

Traditionally, the Finnish service system is built on strong public services. However, the Finnish model has gradually been dissolved, such that a market for other types of operators has been created alongside public operators, even though the public body remains responsible for services vis-à-vis customers. Social enterprises (later SEs) are an example of such operators. SEs are defined by the OECD as "any private activity conducted in the public interest, organised with an entrepreneurial strategy, whose main purpose is not the maximisation of profit but the attainment of certain economic and social goals, and which has the capacity for bringing innovative solutions to the problems of social exclusion and unemployment." This paper is interested in how social innovations are co-produced by SEs in Finland, and how they can be accelerated.

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SEs have been studied for some time, and certain challenges exist: some SEs are not financially sustainable (Powell *et al.*, 2019), issues related to SE ecosystems need more research (Defourny *et al.*, 2021) and "a clear understanding of how institutions can support the process of social innovation is yet to be developed" (Phillips *et al.*, 2015, p. 454). Enabling ecosystems have been suggested as means to support social innovations by SEs, but there are several challenges related to the creation of effective enabling ecosystems for SEs. Potentially high short-term costs to support the ecosystem might prevent decision makers from looking at longer-term benefits. Also, SEs contribution to the society is often measured merely on financial terms by policy makers. A culture that SEs could help build, that would support sustainable economies in terms of equity, inclusion and justice, ceases to exist in the policymakers' priorities. Biggeri *et al.* (2018, p. 303) Finland has a long tradition in research of SEs and hybrid organisations, but systematic policies from government to enhance social innovations by SEs are still missing (Lillberg *et al.*, 2023).

Thus, our research questions are: How are social innovations created in social enterprises in Finland and in which ways could governments strive to build enabling ecosystems for social enterprises? We address the first question by describing the needs to which the social enterprises are contributing, how they are organised and managed, what their characteristics are, and how social innovations are understood and (co-)created in the context of social enterprises (Defourny and Nyssens, 2021; Evers and Ewert, 2021). The second research question is approached by discussing what the enablers and incentives for SEs are, what measures are already in action, and what kind of future potential the interviewees see for SEs. Our data comprises focus group interviews with SEs that were conducted during a research project by VNTEAS (Government's analysis, assessment, and research activities).

In this article, we first introduce recent literature concerning the relationship between social innovations, co-production, SEs, and enabling ecosystems. Social innovation refers to "the design and implementation of new solutions that imply conceptual, process, product, or organisational change, which ultimately aim to improve the welfare and wellbeing of individuals and communities" (OECD, 2021). Co-production can be understood as different processes, methods and acts, or approaches that employ citizen action and/or citizen voice (Loeffler and Bovaird, 2021).

Our article is a descriptive case study. As a result of the study, we present a theoretical framework that builds upon key requirements for an enabling ecosystem, that could help SEs to thrive. Social innovation ecosystems are networks and communities that support and promote the development and scale of social innovation (Valkokari, 2015). We conclude the paper by claiming that SEs have the potential to co-produce public good through their social innovations, but that they need support from the government. Furthermore, more up-to-date ways of understanding social enterprises are needed in the future.

Social innovations and social enterprises

Social innovations can be positioned having an agenda to solve social, economic, environmental, and institutional problems through transforming society (Portales, 2019; Houtbeckers, 2018). The definitions of innovation vary, but, in general, the concept always implies an interest in creating social change by addressing a specific need or a specific problem (Portales, 2019, pp. 2–3). Already early on, innovations were seen to bring a new social order, impacting social and technological culture through change and novelty (Portales, 2019). Social innovation as a concept has been contested several times in history for being imprecise and used in challenging ways, and this makes it important to try to define and understand it, especially because of its current buzzword position in society and the public service sphere (Ayob *et al.*, 2016, p. 636). Satalkina and Steiner (2022, p. 584) define social innovation as "an intervention that is targeted toward structural changes within a social dimension that, in

terms of different functional settings (e.g. technological, business, organizational), are oriented on systemic improvements of societies". They position social innovation in a three-dimensional framework that specifies function-, aim-, and outcome-oriented interventions.

Social innovations typically involve a multi-agent network that has come together to design, deliver, and sustain new services. Studies show that actors from third sector organisations, voluntary work and social enterprises in particular are seen as the most effective producers of social innovations because of their understanding of specific client needs which enables their focus on a specific problem (Windrum *et al.,* 2016, p. 151). In the research literature concerning social innovations, the innovation element typically relates to "the newness of the ideas themselves, [and] the newness of the collaborative forms of social relations involved in both the idea generation and the implementations of these ideas", and one can distinguish between completely new solutions and improvements in an existing solution (Ayob *et al.,* 2016, p. 648). According to Portales (2019, 4), social innovation has four key elements: The satisfaction of a need, the innovation of a solution, a change of social structures and relationships, and an increase in society's capacity to act. Social innovations can redefine the structure of social power relations because of their emancipatory nature (Ayob *et al.,* 2016, p. 648; Henry *et al.,* 2017).

Social innovations have been achieved effectively through co-creation by third-sector organisations and SEs (Windrum *et al.,* 2016, p. 151). SEs have been studied through corporate social responsibility (CSR) studies which argue, from a wider perspective, that CSR mediates profitability even in for-profit enterprises (Phillips *et al.,* 2015, p. 429). Addressing societal change through social innovation requires changes in the design, organisation and delivery of the services of products (Windrum *et al.,* 2016, p. 152). Social entrepreneurs work within a framework where social innovations and a business approach meet, "bringing about social outcomes" that answer to a specific need of a certain specific community (Phillips *et al.,* 2015, p. 430). Phillips *et al.,* (2015) specifies that the goal of a SEs is not in bringing shareholder wealth, but in achieving the radical transformation of services or production processes. Thus, SEs could be central contributors to societal change.

SE operators are more sensitive than public and commercial actors in responding to changing environments and customer needs in certain situations because their services are based in the grassroot initiatives (Terstriep *et al.,* 2020, p. 887). SEs are also seen to produce social sustainability through social innovations (Kamaludin, 2023, p. 10). SEs often operate in markets that are not interesting enough to (purely) profit-making companies, or where the public sector has not been able to meet the needs of the population. This enables social enterprises to quickly meet the needs of citizens who otherwise would be in danger of dropping out of the service cycle, making them especially vulnerable. Co-production has an opportunity to include the disadvantaged citizens in the service development and delivery process (Eriksson, 2022), making it a potentially effective way for SEs to seek social innovations.

Co-production of social innovations

The traditional view of co-production is in co-delivery, where state actors and citizens concurrently and jointly act to provide or improve public services. Citizens can take different roles in different phases of a co-production process (Cepiku *et al.,* 2020, pp. 3–4). Co-production is often a mix of individual and collective acts, that can both enhance social innovation in different ways. Governments should seek ways to support both in different phases of public service design and delivery (Pestoff, 2015, p. 6). Sicilia *et al.,* (2016, pp. 9–10) argue that co-production is relevant in public service provision because of its potential to deal with a range of factors in a service delivery cycle. They also note that a "co-production cycle" includes the planning, design, delivery, and evaluation of the service. Thus, social innovation can be seen as a part of co-production process, where change is achieved through collaboration, leading to new ideas,

empowerment for the actors, and, finally, societal impact (see Figure 1). There has been some research into the process of social innovation (e.g. Phillips *et al.*, 2015, p. 431; Ayob *et al.*, 2016; Crossen-White *et al.*, 2022), and, viewing social innovation as part of a co-production process offers an opportunity to study the principles and elements that are central to the production of social innovations. Social innovations are characterised by their efforts to solve systemic problems that require a common playing field between social subsystems (Carayannis *et al.*, 2021). Social innovation processes consist of parts where new or unmet social needs are identified, solutions to respond to these needs are developed, the effectiveness of the solutions is evaluated, and effective social innovations are scaled up (Carayannis *et al.*, 2021).

Windrum *et al.* (2016, pp. 153–154) list three areas where a service innovation perspective can be related to social innovation:

> (1) Social innovations lead to new or modified services which improve the quality of life of individuals and communities. (2) Citizens are not simply passive consumers of services but active participants, who co-create, trial and implement innovations and, through actively using these innovations, help to diffuse service innovations. Driven by a desire to "solve their own problems", citizens innovate in ways that deliver better services and social welfare. (3) Intermediation of social innovation by knowledge-intensive service organisations: knowledge-intensive public, third sector or private sector service businesses may play a leading role in organizing and diffusing social innovations in service sectors. These organisations may be intermediaries, acting on behalf of users.

Ayob *et al.* (2016, p. 649) also suggest that co-production can be linked to more radical models of social innovation where it challenges current narratives and power relations by engaging and empowering disadvantaged people. According to Henry *et al.* (2017, 788), behind social innovations, there is an intent to alter power relations in society which are central drivers of social problems. One challenge to co-production as a means of producing of social innovations is that social innovations often remain local and temporary (Brandsen *et al.*, 2016). One reason for this may be failing to delineate the specific responsibilities of government and co-producers, establishing financial processes and ensuring the continuity of service delivery (Steen *et al.*, 2018, p. 285). This makes altering power relations to achieve societal impact quite challenging, which is why collaboration between all relevant stakeholders, and the creation of an ecosystem around them, would be desirable (Carayannis *et al.*, 2021). Wu *et al.* (2015) suggest establishing co-production platforms as means to enhance social innovation through partners' skills. Also, research suggests that governments and initiators of social innovation platforms utilise systematic tools and methods for co-production, thus making the work repeatable and scalable, and ensuring its continuity beyond one project or a pilot program (Henttonen *et al.*, 2020; Perikangas *et al.*, 2022).

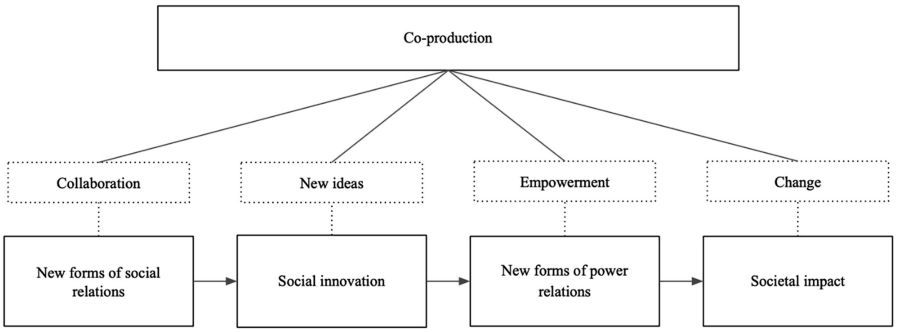

Figure 1.
Social innovation pathways link to co-production

Source(s): Adapted from Ayob *et al*. (2016)

Social enterprise ecosystems

Different terms have been in use for the systems that aim to support the capacities of social enterprises, but we use the term enabling ecosystem as a supportive environment around SEs. An enabling ecosystem for SEs is one that enhances the social innovation capacities of SEs. (Biggeri *et al.* (2018, p. 300–301) Different problems related to enabling ecosystems for SEs exist. For instance, there are inefficient ways to use financial resources, which stand out in projects with high power distance between stakeholders (Hazenberg *et al.,* 2018, p. 116) Thus, financial resources are needed, but they need to be utilised in a way that creates most impact in the society. In addition, financing of the SEs is often centralised to the known actors, and scaling is difficult for smaller SEs. On the other hand, sometimes small, local actors create a lot of impact within a small area, and act in replacement of the public services (Hazenberg *et al.,* 2018, p. 118–119). Also Mazzucato (2019) has reported that ecosystems for mission oriented business and innovation endeavours need understanding and emphasis on the public sector capabilities, financing mechanisms, and citizen engagement. The ecosystems may also suffer from ill characteristics of the actors, causing imbalance of the power relations between the actors and hindering collaboration (Hazenberg *et al.,* 2018, p. 117) Thus, certain enabling characteristics are needed from the actors in an enabling ecosystem.

Biggeri *et al.* (2018, pp. 191–193) have listed several features for an enabling ecosystem, indicating them to create conditions that may have positive effects for SEs. These features contextualise within the rough themes of identification of the needs of goods and services, socio-institutional context where the needs are recognised and collective agency that works toward fulfilling the needs. The role of citizens is central in social innovation ecosystems. Their contribution is needed to evaluate whether the needs and aims of the desired innovations are right (Rocha *et al.,* 2021; Paananen *et al.,* 2021). Newth and Woods (2014, pp. 207–208) list four contextual elements to consider for social innovations: (1) the organisational context, (2) the market in which SEs participate, (3) the informal institutions, (4) the formal institutions. In general, a social innovation ecosystem requires contribution from several different actors, including NGOs, private businesses and universities. Lindsay *et al.* (2018) suggest the use of a collaborative governance model to enhance co-production of social innovations. Thus, an enabling ecosystem for SEs could utilise a collaborative management framework to ensure successful service delivery as a part of it.

Finnish Universities including Universities of Applied Sciences play a significant and crucial role in Finnish innovation policy. The Finnish government has recognised the importance of universities of applied sciences fostering innovation and economic growth by bridging the gap between academia and industry. Universities often establish entrepreneurship hubs, incubators, and accelerators that provide infrastructure, resources, and networking opportunities to support the development of innovative startups, recently even for social innovations and social entrepreneurship.

Method and data

This paper addresses the question of how social innovations are produced, and how could governments enable them. We approach these questions through a descriptive research design, where interview data is analysed through depictions of the needs, organisation and management and characteristics of social innovations in social enterprises (Anastas, 1999). In addition, the enablers, incentives, and future potential for social enterprises are described. Later, we discuss how the results appear from both institutional and individual perspectives (Figure 2).

The data collection was carried out as part of a project funded by the Prime Minister's Office that surveyed social innovations in social enterprises (Lillberg *et al.,* 2023). The researchers arranged semi-structured thematic focus group interviews in May 2022 (Schorn,

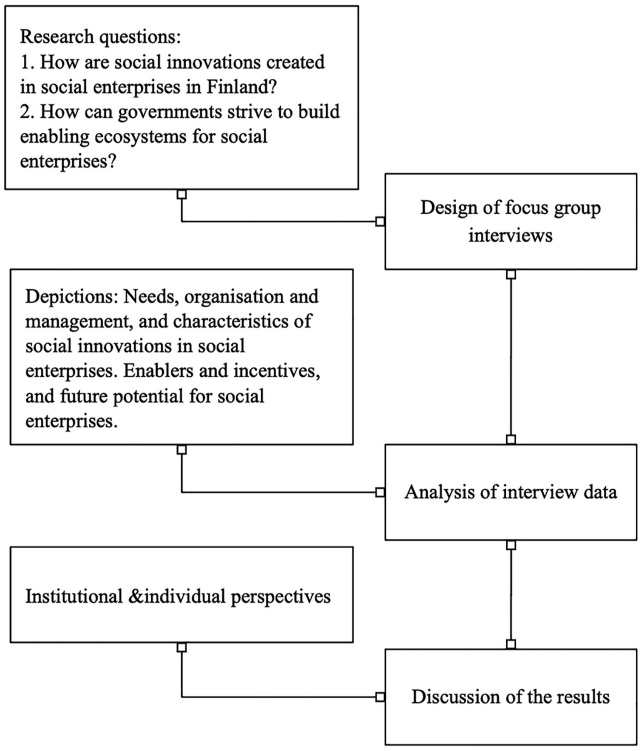

Figure 2.
Descriptive research design

Source(s): Author's own creation

2000). Nine social enterprises (SE1–SE9, see Appendix) were represented in the interviews, in addition with two Finnish ministries (later in quotations, EN1 and EN2). The interview themes were (1) the societal needs and solutions from SEs, (2) the orderers and producers of solutions, and (3) enablers and future for SEs and social innovations. The themes were determined by the recent discussion in the European and Finnish contexts of social innovations by SEs, where the role of public organisations, need for public policies, and better understanding of SE ecosystems have been recognised. (see ie. Benoît *et al.,* 2021; Lillberg *et al.,* 2023). The interviews lasted about 90 min each. All interviews were conducted in Finnish, and quotations in Findings section were translated into English by one of the authors. The authors used researcher-triangulation to ensure the correctness of the translations.

The selection process of the interviewees was based on a division of different types of SEs. The division was between organisational actors in the early stages of operations, longer-term organisational actors, and corporate social enterprises. The last group involved governmental actors that could work as enablers of social innovations. After the division, one of the researchers listed 20 actors that were invited to the interviews. The criteria for the shortlist were that the SEs must have cooperation with both the governmental organisations and private institutions and/or the civil society. The list was compared against a quantitative data set of 3,670 Finnish SEs, to ensure the representativeness of the interviewed SEs (The Centre of Expertise for Social Enterprises, 2022).

Each interview followed the same structure. Each interviewee was asked to comment on each topic, and discussion between the group participants was encouraged. We used thematic analysis in coding of the data (Nowell *et al.*, 2017). Figure 3 depicts the process. The comments that indicated one or several of the themes which we relate to the creation of social innovations and building or enabling local or national ecosystems to support them were collected. After the initial coding, member checking was conducted (Lincoln and Guba, 1985). It allowed the researchers to establish the fit between respondents' views and the researcher's representation of them. Afterwards, focused coding and creation of the themes were conducted, and as a result, the researchers constructed a theoretical framework of the interconnectedness between co-production of social innovations and enabling ecosystems for social enterprises (later, see Figure 4).

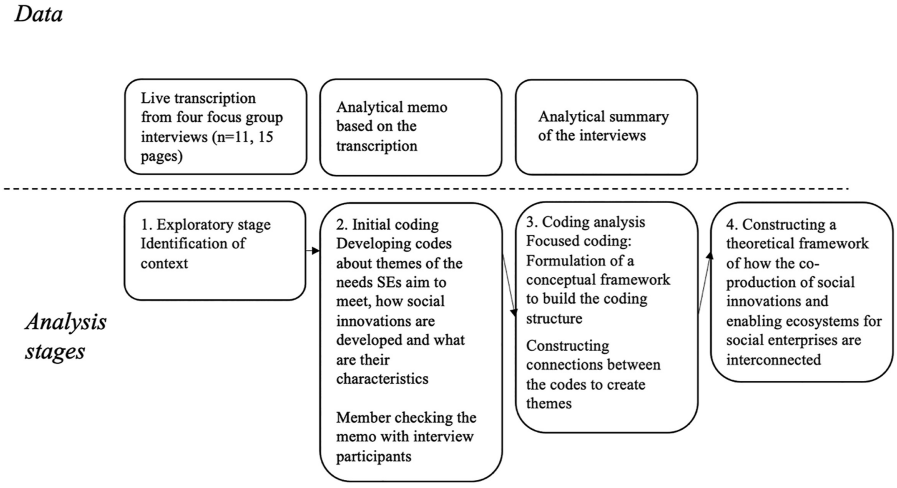

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Figure 3.
Coding process and the analysis stages of the data

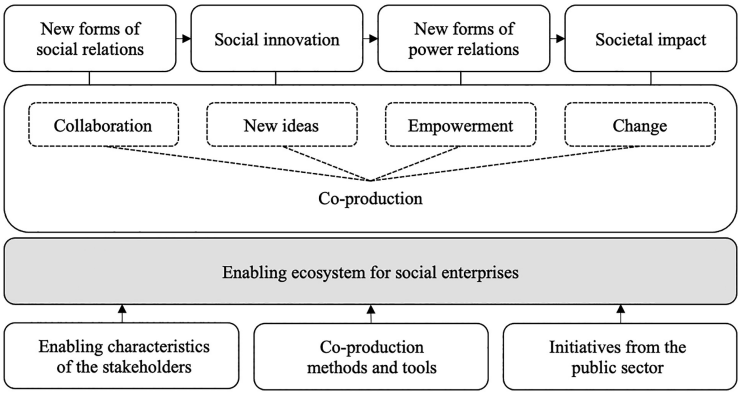

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Figure 4.
An enabling ecosystem and its requirements in relation to co-production and a social innovation process

Findings

Our findings indicate that the co-production of social innovations by social enterprises in Finland follows the process that Ayob *et al.* (2016) presented quite well (see Figure 1). Collaboration in the form of co-production could be seen in all interviewees' cases, and it had often led to system-level solutions. Through engagement, the actors had been empowered, which became visible in changes in the social power relations within the co-production process. Also, societal impact had been achieved to a degree, in the form of new practices that the organisations working with social enterprises had adapted.

What needs are social enterprises contributing towards?

The interviewees mentioned the following reasons for social enterprises to exist: Serving groups with special needs, reducing inequality, enhancing inclusion, and the creation of public value. All the interviewees from social enterprises agreed that the need for a social innovation is always born from customers' needs. A co-production approach was embraced in all of the social enterprises. According to an interviewee from SE5: "Reduction of inequality and strengthening participation fit well for social enterprises. People are made the subjects of their own cases. They get to design, implement, and evaluate the services offered to them." The social innovations created by the social enterprises aimed at solving several social problems through addressing a specific need, for instance, to enhance social wellbeing for ageing people. An interviewee from SE1 stated: "We knew about the volunteers' waning interest in committing to long-term work. On the other hand, we knew about elder peoples' loneliness. We decided to combine these two problems."

The need for a social innovation could also be system-oriented and structural. In SE7, the social innovation was to work as a mediator between small wellbeing service providers and their potential customers, in this case, governmental institutions. The interviewee from this organisation told that: "Our enterprise brings together services by single actors and offers "stronger shoulders" in relation to the customers. . . . Co-production and service integration require value-based commitment." Through their values-based approach and strong networks, they could offer chances for smaller and more specific service providers. New forms of social relations are born when people collaborate.

How are social enterprises and their services organised and managed

In nearly all the interviewees' responses, the strong role of the target group, the beneficiary, was mentioned in the co-production of the service. They had participated in the development of the service, but in most cases acted as co-producers within the networks that acted for their benefit. An interwiewee from SE9 stated: "People are actors with strong agency, not objects. Our aim is that the users of the services are also the developers of the services." In SE5, the development of the services had happened in roundtable discussions, where solutions were sought together. In case SE7, the social enterprise worked closely with private companies, forming networks, and setting shared goals.

The ability and willingness to take risks was seen as central in enhancing social innovations. The interviewee from SE5 mentioned: "One big foundation is about to start collaboration with a family enterprise that creates carbon neutral living solutions made of wood. This kind of combination attracts interest; it's a social innovation. They take a risk to build better services for a certain target group." They considered this to be a social innovation. They also mentioned digitalisation as a form/or mediator of social innovation, as well as service design. "There's digital start-ups relating to mental health and [a] good life that solve the problems of different patient groups".

Platform thinking and networks were also mentioned as ways to organise, along with lean and start-up thinking. At the same time, the ways of organising were seen as social

innovations. The interviewee from SE9 said: "Creating the network was a sort of social innovation. The network forms an ecosystem which helps the small actors create rather big operations", and "The operational model is the social innovation." Service integration was also seen as a way to organise and manage social enterprises and their environment. The interviewee from SE7 said: "We work as an integrator. We collect individual services together and offer "stronger shoulders in relation to the buyers of the services." Social innovations are born in collaboration, and as a result people are empowered which can change power relations between the SEs and the government in a positive way.

Characteristics of social enterprises

When asking about the drivers of social enterprises, one interviewee mentioned activism as a desirable characteristic of a social enterprise: "Social enterprises should be feistier in criticising businesses that grow too big." Another interviewee, from SE6, mentioned that "Professionalism", "customer centricity", and "interpreter of the everyday" are the three elements of a social innovation. The element "interpreter of the everyday" refers to the practical and systemic understanding of how the services work in individuals' lives. Social innovations can also happen unknowingly and relate to making things differently or better. The interviewee from SE4 described the participants of a social innovation process, when asked about what the development processes of social innovations have been like: "The program for youth was initiated by collecting the perspectives and knowledge of the youth from the experts in the corporation. The youth were strongly involved." A central characteristic for social enterprise is the involvement of a variety of actors in the social innovation process, this repeated in all the interviewees responses. A good everyday life and the wish to create a good life for everyone were seen as the purposes of SEs. In the future, The interviewee from SE9 stated: "social innovations should produce good life for society."

The enablers and incentives for social enterprises

The enablers for social enterprises were seen primarily as means for funding. Typically, the social enterprises worked on different projects that received funding from different sources. The interviewee from SE3 noted that: "The development processes [of social innovations] are project based. Implementation and scaling of the services has often been forgotten. . . . [Our] model was born through projects and found its place in municipalities." In the future, funders could include the government, municipalities, wellbeing services counties, and TE services through public procurements. Suggested by the interviewees, another way to get funding was through different projects, but an enabler for the social innovations was seen to be long-term development. The interviewee from SE2 said: "Social enterprise itself can be a social innovation that solves a social problem. But in such a case, there should be long-term funding." Another enabler was to make social enterprises and their specialities better understood amongst financial instruments.

The interviewees felt that there were currently no incentives for social enterprises to create societal impact through change. Possible incentives that the interviewees mentioned were a positive perception of social enterprises, tax relief in a situation where profit is reinvested in the operation, conspicuousness, societal valuation, concrete support, such as help in scaling, and prioritisation in competitive tendering. Regulation was seen as central in the creation of incentives, as well as possibility in changing company form. The interviewee from SE8 stated: "A family company could turn into a social enterprise". Also, fast-paced funding systems were seen as important to respond to fast-changing needs.

Creation of more knowledge about social enterprises and social innovations was seen as an enabler for social enterprises. The interviewee from SE3 told: "Public procurements could create a buyer market, if the procurement departments had knowledge and will to help build

social innovation activity by SEs." Often SEs struggle in the shadow of traditional businesses. The interviewee from EN2 said: "Innovations and social innovations are not competitors with each other. By research, it is possible to raise the significance of social innovations."

The future potential of social innovations by social enterprises

In the future, special focus on systems and network management and the needs of the green transition were seen central, although at the same time, the interviewees thought that social innovations should always be grounded on the problems of people's everyday life. The interviewee from SE2 told: "We are good at developing structures and performance, but weaker on the practical level. Social innovations require smooth cooperation between actors. Consideration of the whole, the eco-social aspect, will be an important theme." The interviewee from SE4 stated that social enterprises and social innovations could provide a solution to a problem within the professionals in social and healthcare field: "Social innovations would be needed to make the work in social and healthcare–field attractive. New ways of meeting people and work." Also, regional development was seen as a future beneficiary of social enterprises. The interviewee from EN1 said: "From the perspective of the countryside, social enterprises or collective economy could be solutions. The distances [to services in the countryside] are long, for instance. There would be a need to bring actors and people together to produce services. The services could be related to help in everyday tasks, elder people's habitation, or environmental care."

Discussion

The results of this study have shown that the purpose of SEs is tightly connected to solving systemic problems that typically the most vulnerable people suffer from (Tuurnas *et al.*, 2015; Määttä, 2012). Relying on strong networks, both volunteer and professional, are ways to organise for SEs. Practical understanding of people's everyday lives is a central characteristic of SEs. Financial resources, regulation and knowledge of SEs were seen the main enablers and incentives for SEs. In the future, the interviewees wanted to see an emphasis on enabling systems and networks. Thus, building on Ayob *et al.* (2016), we suggest a framework for building enabling ecosystems for social innovations in SEs (Figure 4). The framework depicts key requirements for an enabling ecosystem in relation to co-production and social innovation process. Next, we explain how (1) Enabling characteristics of the stakeholders, (2) Co-production methods and tools, and (3) Initiatives from the public sector, are key requirements for an enabling ecosystem for social enterprises.

Required characteristics of the stakeholders in an enabling ecosystem

In addition to involving the appropriate stakeholders, a functional social innovation ecosystem requires several characteristics of the stakeholders, such as a willingness to collaborate, openness, trust, and cooperation between different stakeholders, in addition to a supporting platform for the work (Terstriep *et al.*, 2020). The same criteria and characteristics apply to the co-production of social innovations in general (see Carayannis *et al.*, 2021; Crossen-white *et al.*, 2022). Based on the analysis of this study, we consider six characteristics central to a functional ecosystem: willingness to collaborate, open communication, trust, shared goals, right incentives, and resilience.

Willingness to collaborate is the first enabling characteristic. All stakeholders must be motivated and willing to collaborate with SEs. The ecosystem must be able to produce new interventions or new programs to meet social needs (Carayannis *et al.*, 2021, p. 237). Participation is a preliminary level of engagement in which citizens share power with public

officials, and inclusion is a key cornerstone for the element to materialise (Rocha *et al.,* 2021, p. 7). At the same time, it makes sense to assess how much regulation is needed and whether new ways of working could be more effective than the old ones. In many respects, public and private work side by side, but in a different environment, a public and SE could also operate in an innovative way in parallel.

Second, *open communication* between stakeholders ensures that knowledge and resources can move freely. The ecosystem must encourage participation and increase willingness to contribute ideas (Crossen-white *et al.*, 2022). Furthermore, by making it transparent, it helps to shape expectations for the co-production process, and constitutes a base element for communication, consensus building, and dialogue (Rocha *et al.,* 2021, pp. 4–5). Third, continuous, sustainable collaboration requires *trust* between stakeholders. The ecosystem must develop trust especially among its citizen representatives, and create a sense of ownership in the project (Crossen-White *et al.*, 2022). Trust can be glossed as "trust in people" or "trust in institutions": good ecosystem governance is facilitated by trust, hence it can create respect and understanding towards institutions, citizens, and political decision making (Rocha *et al.,* 2021, p. 6).

Fourth, collaboration must be based on *shared values and goals*, so that the stakeholders can work together effectively and achieve the shared goals. The ecosystem must be demand-led rather than supply-driven (Carayannis *et al.,* 2021, p. 236). Modern public governance is based on a needs-based assessment of which service is provided at any time and to whom. The challenge for public administration is to be able to provide services to the masses, but not tailored to the specific needs of the customer. From the point of view of social (and other) companies, the crucial question is whether – and under what conditions – the public sector can hand over its responsibilities to other actors? Fifth, collaboration requires the *right kinds of incentives* in order to motivate and engage different stakeholders. The ecosystem needs to be participative and empowering of citizens and users rather than "top down" and expert led (Carayannis *et al.,* 2021, p. 236). However, when SEs combine social and economic objectives, their position in the market is more challenging than that of profit-making companies. From a social point of view, it makes sense to organise services for different service needs, even if they do not constitute a market, but the activity is beneficial to society.

Lastly, collaboration requires resilience and readiness to adapt to changing circumstances and needs, forming an ecosystem based on interdependencies. The ecosystem must be open rather than closed in regard to knowledge sharing and ownership (Carayannis *et al.,* 2021, p. 236). In fact, a rapid response to people's changing needs is a certain type of social innovation, or at least one of its specific features. From the point of view of equity, however, there may be a risk that regions will differentiate from each other and that there will be better support in one region than in another. It would therefore also be important to compile good local practices into generic models and scale them elsewhere.

Systematic co-production is needed for social innovation

In the case of all the SEs studied, the mission is either on creating systemic solutions for people in vulnerable positions, or it is on the individuals and changing their actions. Both positions aim at a similar future though: Achieving societal impact by cultural change through the work they do. This requires systematic co-production. Neither top-down nor consumerist market-oriented public service provision is prepared for systematic co-production (Pestoff, 2015, p. 6). Their governance logics differ from the inclusive and collective ideas of co-production (Pestoff, 2015). Thus, creating, scaling, and sustaining social innovations is difficult, unless systemic change is pursued.

According to the interviews, central elements for the creation of social innovations are professionalism, customer centricity, and practical and systemic service knowledge. Social innovations are understood through co-production in SEs. Co-production processes facilitate the production of these innovations by providing tools and mechanisms to bring together professionals, clients, and other relevant actors, and, through service design, to enable the co-creation of practical knowledge and plans for improvement of services and networks (Ayob *et al.,* 2016). Co-production especially has a positive effect on innovation by offering to facilitate the development of skills and experience through knowledge transfer (Wu *et al.,* 2015, p. 2251). In addition, Wu *et al.,* argue that co-production enhances the self-efficacy of all co-production partners. Co-production entails the idea of a community, a network, an ecosystem, a platform and/or an organisation. Social innovations answer to the needs that arise from people's everyday needs, and a social enterprise has the agility to find those needs in society and react to them. SEs also have an ability to take risks and make mistakes, and accountability is a typical feature (Defourny and Nyssens, 2021; Evers and Ewert, 2021).

The findings can be perceived from both a collective and an individual point of view. Some of the social enterprises represented emphasised individual acts as co-production, some collective acts. Different kinds of co-production in the production of social innovations can be distinguished in the following way: Individual acts of co-production are based on spontaneous or informal acts that can still be necessary as a part of a service. Collective acts of co-production "involve formally organised and institutionalised activities done together with others" (Pestoff, 2015, p. 4). A mix of collective and individual co-production is also common, especially in relation to long-term co-production, where both individual and collective efforts are systematically facilitated (Pestoff, 2015). Social innovations usually need several types of actors within an ecosystem around one or more SEs, and both volunteerism and professionalism with strong customer centricity are present in social innovations by SEs (Defourny and Nyssens, 2021; Evers and Ewert, 2021).

Power relations and societal structures are inherently resistant to change, particularly when coupled with the entrenched interests of powerful actors, thereby positioning the very agenda of the "social" in social innovation as a particularly challenging form of innovation (Newth and Woods, 2014). Different forms of power can affect the opportunities for social enterprises to create change and impact through social innovations. Ideological power, which is related to the norms and values of people; economic power, which relates to the exploitation of resources; and political power, which relates to the regulation of social life are all things to be considered when trying to enhance social innovations (Henry *et al.,* 2017, p. 788). Co-production as a process towards social innovation has the potential to break these traditional power structures if it is systematic and sustainable. The characteristics of acts of co-production as described in the interviews were: digitalisation, service design and governance, networking models, and empowerment of actors. Empowerment of actors was seen central in social innovation processes, creating new forms of power relations, and, thus, contributing to cultural change and societal impact.

According to the interviewees, social innovations are needed where the public sector and traditional businesses have failed, repeating what previous studies have shown (Phillips *et al.,* 2015; Ayob *et al.,* 2016). Thus, the working environment for social enterprises should enable social innovations and encourage them to thrive. There are several methods and tools to stimulate the co-production of social innovations in a systematic way. These include living labs, which are a concrete setting where citizens can participate in an innovation journey; co-production platforms, following for instance the quadruple helix framework, bringing together different actors systemically; and other service design methods and tools that can enhance systematic collaboration (Carayannis *et al.,* 2021; Henttonen *et al.,* 2020; Perikangas *et al.,* 2022).

Enabling initiatives from the public sector

An enabler for social innovation is a network of stakeholders that can lead a joint process towards a shared goal. The interviewees emphasised the networking nature of social enterprises and how co-production is central for them, although they saw a need for a wider enabling ecosystem that would truly make social innovations sustainable and their impact wider, thus producing co-production on a systemic level, with institutions supporting the development of social enterprises (Terstriep *et al.,* 2020, pp. 887–888). The enabling ecosystem was conceived in terms of different initiatives from the public sector that would help social enterprises, and, thus, social innovations, to thrive. These were: Public discourse and cultural change, investments, learning resources, and innovation policy. An enabling ecosystem would create an environment in which social innovations can develop, scale, and impact significant and effective results in communities and societies (Terstriep *et al.,* 2020). Public sector can strive to create initiatives where different actors can take part in. More generally, this aligns with research that suggests collaborative governance and management as means to nurture social innovations, allowing the creation of an enabling ecosystem for service co-production (Lindsay *et al.,* 2018).

Digitalisation and mission-led innovation policies are also initiatives that help to build supportive ecosystems for SEs (Mazzucato, 2019). Digitalisation enables enterprises to reach clients irrespective of their physical location. Digital services may also work as social innovations that are built around one mission, achieving greater sustainability, for instance. Research has addressed the fact that social entrepreneurship can also be seen as a means of enhancing sustainability in deprived urban and rural areas, which may suffer from depopulation and diminishing employment possibilities (Kostilainen *et al.,* 2021, p. 55). Digital co-production can encourage a shift from separate services towards a service ecosystem, and it has potential to enhance inclusion (Paananen *et al.,* 2021; Perikangas and Tuurnas, 2023). Thus, the creation, development, and scaling and sustaining of social innovations need to be equally promoted by the public sector.

Limitations of the study

This study has some limitations. Its small number of interviewees means that the knowledge of Finnish social enterprises was acquired from a limited number of actors. Although the social enterprises were a representative group, representing big, small, newly established, and longer established actors, we cannot claim that all Finnish social enterprises would work in similar ways or have similar agendas. Instead, we recommend more in-depth, as well as perhaps quantitative, studies that would research the themes that arose during this study.

Conclusion

This study has shown how collaboration and partnerships are central to social enterprise ecosystems. In such ecosystems, stakeholders can share knowledge and resources, offer funding, guidance and support for development of social enterprises, or offer opportunities for acquiring new clients. Through an enabling ecosystem, social enterprises can create social impact and contribute to cultural change while doing sustainable business to solve societal problems. Our first research question was: How do social enterprises create social innovations in Finland? We have shown that they do this through co-production, where service innovation processes, activism, and networking are central. Our second research question was: How can governments strive to build enabling ecosystems for social enterprises? According to the results from this study, to build an enabling ecosystem, government has to base the system upon certain elements: enabling characteristics of stakeholders, co-production methods and tools, and initiatives from the public sector.

In this article, we have taken part in the ongoing discussion regarding the relationship between co-production, social innovations by social enterprises and enabling ecosystems. We have presented a theoretical framework that builds upon key requirements for an enabling ecosystem, that could help social enterprises to thrive. For policymakers and social entrepreneurs, we recommend acquiring knowledge on co-production methods and tools, networks and collaborative management. We already presented some examples of recommended characteristics of network actors around SEs, and we suggest governments to build initiatives and development programs that enable SEs to take part in them in different ways.

To conclude, we suggest wider use of state-of-the-art ways of understanding and driving social innovations by SEs. For instance, local communities as social enterprises and technological advances as potential accelerators for such communities could help us address many current and future challenges, such as an ageing society, loneliness, and unemployment in rural areas. The governments should have an open mindset to start creating enabling ecosystems for SEs. Shared digital platforms and co-production tools and platforms are concrete places and spaces that can be built to create chances for effective collaboration between different stakeholders. We also call for more research on the effect of different types of innovations, social, business, and technology, within these ecosystems (Satalkina and Steiner, 2022, p. 586).

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Corresponding author
Sofi Perikangas can be contacted at: sofi.perikangas@uwasa.fi

Appendix

Table A1. Characteristics of the interviewed implementers of social innovation ecosystems

Social enterprise	Description	Target group	Type of organisation	Organisational modes of activity	Paid employees	Volunteers	Institutional network
SE1	Creative caring community	Elderly people	Registered association	Based on the community work of volunteers in municipalities	5 + temporary project employees	2,500	23 municipalities
SE2	Training and project organisation for creation of culture	Mental health survivors and people with disabilities	Registered association	Based on the collaboration in networks and sales and trainings of wellbeing products	12	No identified role	43 member organisations, working in mental health, disability, intoxicant, and culture services
SE3	Expert organisation for the equal employment	People with disabilities, long-term illnesses and people with partial work capacity	Foundation	Development, advocacy, training, dissemination of information and active networking	11 + temporary project employees	No identified role	45 background organisations + co-operation with employment, rehabilitation and education stakeholders
SE4	Offers social and health care services and housing	Elderly, disabled, addicts, homeless, children, youth, and other people with special needs	Foundation	Paid services and neighbourhood work with volunteers	2,600	No identified role	Part of a larger foundation group

(*continued*)

Social enterprise	Description	Target group	Type of organisation	Organisational modes of activity	Paid employees	Volunteers	Institutional network
SE5	Dedicated to educating the public in matters of home economics	Anyone	Registered association	Collective learning amongst members through different clubs	Approximately 100	38,500 members	Part of the International Federation for Home Economics (IFHE), collaboration and campaigns with organisations and the authorities
SE6	Produces child welfare services	Expecting families and families with small children	Registered association	Free services and help from experts by experience and volunteers	70	The number of volunteers is not specified	Collaboration with municipalities, families, and research institutes
SE7	Network platform for producers of well-being services	Public social and healthcare services	Limited liability company	Digital platform and network, collaboration and co-creation	3	No identified role	35 shareholders who collaborate to offer services to public employers
SE8	Develops and promotes tools based on virtue ethics for organisations	Work environments	Limited liability company	Coaching for organisations and free tools for education of children	3	No identified role	No identified network
SE9	Open space that offers services and rental spaces	Promotion of mental health	Limited liability company	Co-creative space for events, work, art	6	The number of volunteers is not specified	Shareholder and collaborative associations and projects

Source(s): Authors' own creation

Table A1.