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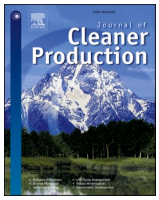

Grassroots initiatives transforming cities toward post-growth futures: Insights from the collaborative economy movement in Gothenburg, Sweden☆

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ABSTRACT

Grassroots initiatives (GIs) are local, yet globally connected networks of activists that generate novel solutions for sustainability. While GIs are often claimed to play an important role for urban sustainability transitions, little research has examined how such innovations consolidate beyond isolated local initiatives. This article summarizes findings from a case study of the collaborative economy grassroots movement in Gothenburg, Sweden, to explore how the movements' transformative capacity can be strengthened to enable transformations away from the growth-based economy, for the purposes of social-ecological sustainability. Our findings suggest that GIs demonstrate potential for post-growth transformations and that intermediary support and leadership are key to strengthen their transformative capacity. However, we also find that as GIs develop to influence regimes, they may face trade-offs that compromise their autonomy. If considered, we argue that the transformative capacities of GIs can be supported, to enact economic transformations toward a post-growth economy.

1. Introduction

Cities are critical hotspots for socio-technical transitions toward sustainability. Not only can cities be incubators of innovative ideas in an urbanizing world, but they are also drivers of global production and consumption (Elmqvist, 2013). So far, research on transitions has largely focused on large-scale infrastructure systems such as energy, waste, or transport (McCormick et al., 2013). However, the potential for urban transitions by grassroots initiatives [3](GIs), or niches have been studied less (Wolfram, 2018; Loorbach et al., 2020). Grassroots initiatives (GIs) are local "networks of activists and organisations that generate novel bottom-up solutions for sustainable development" (Seyfang and Smith, 2007, p.585). While GIs are often acclaimed for creating radical and diverse social innovations for sustainability (Stiglitz, 2010; Bulkeley et al., 2014; Frantzeskaki et al., 2016; Raj et al., 2022), little is understood as to how or to what extent GIs may become significant players for urban sustainability transitions (Wolfram, 2016; Köhler et al., 2019). This has prompted researchers (e.g., Frantzeskaki et al., 2016; Avelino, 2017; Wolfram et al., 2019; Grimley et al., 2022) to pose the question that if GIs do have the potential to enact large-scale sustainability transitions, how could their capacity to enact such transitions be strengthened?

Just as importantly, which kinds of transitions are necessary for sustainability? Due to the lack of evidence that economic growth can be decoupled from critical environmental pressures (Parrique et al., 2019; Haberl et al., 2020), there are increasing calls for post-growth transitions. This refers to a transformation of the economy so that it can equitably meet peoples' needs without growing (Jackson, 2017). Interestingly, GIs have the potential to enact economic transformations to post-growth economies (e.g., Göpel, 2016; Hinton and Maclurcan, 2017; Demaria and Kothari, 2017; Schmid, 2022; Savini et al., 2022), through the creation of local sharing or solidarity economies (McLaren and

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[3] Grassroots initiatives can also be referred to as grassroots niches, innovations or movements.

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Agyeman, 2015; Martin, 2016; Iaione, 2016; Frenken, 2017; Grandadam et al., 2022) or other so-called 'low-carbon' lifestyles or projects (Gorissen et al., 2018). Despite many commonalities between transition research, studies of GIs, and research on economic transformations, transition research is yet to cross-pollinate with discussions on limits to growth and post-growth (Köhler et al., 2019; Raj et al., 2022).

In this article, we take a step towards such cross-pollination by exploring how GIs enact economic transformations toward post-growth futures. We do so by drawing from an in-depth case study of the collaborative economy grassroots movement in Gothenburg, Sweden, to discuss how the transformative capacity of GIs could be strengthened to enable a post-growth economy.

To delineate the concept of 'post-growth', we differentiate it from adjacent concepts such as 'de-growth', 'steady state economics', 'pro-growth' (Van Den Bergh and Kallis, 2012), by emphasizing its role as an umbrella term that redefines economic progress beyond mere GDP growth, addressing both social equity and environmental sustainability. This 'post-growth' perspective is crucial in understanding the potential role of cities as catalysts for sustainable change, offering a framework that transcends traditional growth paradigms.

In the subsequent sections, we will explore the connections between 'post-growth' economics and grassroots initiatives, illustrating how local movements can drive meaningful economic transformations towards sustainability. Our analysis bridges 'post-growth' theory with the practical actions of grassroots innovations in Gothenburg, highlighting their potential as agents of urban sustainability transitions.

To investigate this topic, we ask.

(1) To what extent are grassroots initiatives in Gothenburg compatible with a post-growth economy model?
(2) What conditions have enabled the emergence and persistence of grassroots initiatives in Gothenburg?
(3) How are grassroots initiatives in Gothenburg being (dis) empowered to enact transformative change toward a post-growth economy?

Our objective is to highlight opportunities and challenges for the enactment of change on the ground, and to recommend strategies that can strengthen the long-term transformative capacity of GIs. We use the conceptual background described below to discuss an emerging grassroots movement, the collaborative economy in Gothenburg, Sweden. We argue that by studying the visions, goals, challenges, and multi-actor interactions of GIs, we can form a better understanding of the enabling and constraining aspects of change, that dictate the conditions under which transformative initiatives emerge and persist over time (Avelino and Wittmayer, 2016; Maldonado-Villalpando et al., 2022). The main contributions of this article are the novel insights on the role that grassroots initiatives (GIs) can play for urban sustainability, including the importance of intermediary supporters, while also highlighting trade-offs in autonomy and empowerment dynamics as GIs develop (Raj et al., 2022). Our findings also offer a nuanced discussion of how GIs can contribute to a post-growth economy, contributing to a growing body of literature discussing post-growth (Hinton, 2021b; Schmid, 2022; Savini et al., 2022) and grassroots innovations (Pansera and Fressoli, 2021; Maldonado-Villalpando et al., 2022; Grimley et al., 2022).

The article is structured as follows: Section 2 explains the conceptual framework. Section 3 outlines our research methodology and case study design. Section 4 discusses our key findings in relation to the literature and our policy recommendations. Section 5 concludes our findings and suggests avenues for future research.

2. Conceptual background: grassroots initiatives and their capacity for post-growth transformations

2.1. The urgent need for post-growth transformations

Since the late 1990's, processes of non-linear systemic change in complex societal systems have become the object of research under the headings of 'transitions' (Rotmans et al., 2001; Elzen et al., 2004; Grin et al., 2010) and 'transformations' (Holling and Gunderson, 2002; Folke, 2006; Olsson et al., 2006). Transformation theory is commonly conceptualised according to the multi-level perspective consisting of niche, regime, and landscape levels (Geels, 2011). The regime is the dominant rules, actors, and ways of doing things (Avelino and Rotmans, 2011). Within the regime, niche practices and actors led by shadow networks provide spaces where alternative "ways of doing" emerge, which deviate from the regime (Olsson et al., 2006). The landscape level is the deeper structuring and wider context that influence the niche and regime levels (Geels, 2011).

A dominant economic regime is modern society's obsession with economic growth as the foundation of human welfare (Higgins, 2014). As there is currently no evidence of sufficient decoupling of economic growth from environmental impacts (Parrique et al., 2019; Haberl et al., 2020), it is crucial to understand how alternative sustainability transformations that do not drive and require constant economic growth can be enabled in practice (Svenfelt et al., 2019; Köhler et al., 2019). In other words, economic transformations toward a post-growth economy are needed (Jackson, 2017; Paech, 2017).

We use the term "post-growth economy" to refer to an ideal future type of economy that is oriented towards equitably meeting everyone's needs within environmental limits and that does not systemically drive or require constant growth (Jackson, 2017). As such, "post-growth" can also be seen as an umbrella term encompassing all perspectives that are critical of pursuing economic growth as a goal, including a-growth, degrowth and the steady state economy (Koch and Buch-Hansen, 2021; Hinton, 2021a). As an umbrella term, post-growth is characterized by its flexibility and openness to adapt economic goals and activities according to societal and environmental needs, without being bound to a predetermined economic trajectory.

A post-growth economy will require new ways of doing that reduce the total amount of production and consumption in societies (Dale, 2012; Van Den Bergh and Kallis, 2012). In a post-growth economy, economic activities would therefore be repurposed to serve social and environmental goals as opposed to profit and GDP-growth (Göpel, 2016; Hinton, 2021a). The purpose of economic activity in such a system would be to promote human well-being, social benefit, equity, sufficiency, use-value, and prosperity, while minimising production and consumption (Jackson, 2017; Paech, 2017; Raworth, 2017). Thus, sharing and swapping play a key role in meeting needs in a post-growth economy (Parrique, 2019; Hinton, 2021a). Importantly, a post-growth stance also suggests that already existing initiatives with social and/or environmental missions that operate at the margin of our societies (e.g., sharing networks, community gardens, and not-for-profit businesses), can be supported to replace the for-profit economy, to enable the necessary transformations (Göpel, 2016; Hinton, 2021a, 2021b).

In this article, we use the term "transformative change" to refer to the processes that lead up to fundamentally different cultures, structures, and practices of a social system (also known as the 'regime' in the transition literature) (Loorbach et al., 2017). In social systems, paradigms are the mind-sets or worldviews that make up "the shared idea in the minds of society, the great big unstated assumptions–unstated because unnecessary to state; everyone already knows them" (Meadows, 1999), this shared idea constitute that society's paradigm, or deepest beliefs about how the world works. Importantly, paradigms consisting of shared mind-sets have been considered as key leverage points for transformative change, as they translate into visions and goals, and ultimately collective action in social systems (Göpel, 2016).

The dominant social system referred to in this article is that of the growth-based economic paradigm, versus the post-growth alternative paradigm, which focuses on meeting human and environmental needs through the commons (Bollier, 2014; Göpel, 2016). The growth-based paradigm is composed mostly of for-profit forms of business and is organized around the goal of financial gain for business owners and investors (Hinton, 2021a, 2021b). It is an economic system in crisis, in which exponential GDP-growth threatens the social and biophysical limits that form the basis for human well-being (Meadows et al., 1972; Easterlin, 1974; Jackson, 2017; Raworth, 2017). In such a system, the purpose of economic activity is GDP-growth and growing profit, which are assumed to lead to a more efficient allocation of resources (Göpel, 2016). In contrast, a post-growth paradigm is one in which the purpose of economic activity is directed toward social or environmental ends rather than profit (Parrique, 2019; Hinton, 2021a). This can take many forms in terms of economic organizing, but post-growth economists tend to emphasize the role of commons-oriented initiatives and not-for-profit businesses (e.g., Bollier, 2014; Kallis, 2018; Hinton, 2021b). For example, commons-oriented initiatives or not-for-profit businesses can contain a variety of community initiatives or platform co-operatives that adopt alternative economic practices such as sharing, swapping, bartering or gifting items or things (McLaren and Agyeman, 2017; Bradley and Pargman, 2017; Frenken, 2017; Grandadam et al., 2022).

To understand the compatibility of transition processes with post-growth, we treat the goals and visions of multiple actors as the critical unit of analysis (Göpel, 2016). These goals and visions dictate implications for post-growth compatible transformative change, e.g., reinforcive or transformative (Avelino, 2017). This implies that GIs which align with design principles of the growth-based paradigm are reinforcive of the dominant economic system, while GIs that align with the post-growth paradigm holds transformative potential. This includes GIs oriented around the principles of preserving and nurturing commons (Bollier, 2014). Table 1 describe these two contrasting paradigms.

2.2. The role of grassroots initiatives for sustainability transitions

A growing body of literature is looking at the role of grassroots movements (also referred to as grassroots niches or innovations), as an important domain of study in terms of how and to what extent such movements affect the politics and governance of sustainability transitions (Smith, 2006; Seyfang and Smith, 2007; Ornetzeder and Rohracher, 2013; Kern and Rogge, 2018; Ehnert et al., 2018; Ng et al., 2022). Many GIs seek to advance a more socially just local economy, facilitate low consumption lifestyles, regional sustainable food systems or living and building in harmony with nature (Loorbach et al., 2020). In transitions literature, GIs are understudied and characterised by much more diverse and organic features in comparison to purely technological innovations (Wolfram, 2016). They are deeply rooted in their geopolitical contexts, often led by citizens that respond to opportunities or problems in their local environment (Wolfram, 2018). While GIs are local by nature, they connect to other initiatives across the globe, forming trans-local networks that exchange ideas through shared discourses (Seyfang and Smith, 2007).

Table 1
Two contrasting paradigms of economic change (Bollier, 2014, p.180-181; Hinton, 2021a)

	Growth-based paradigm	Post-growth paradigm
Goals of the economy	GDP-growth and profit accumulation through market exchange	Meeting human and environmental needs
Strategy to safeguard resources	Maximizing efficiency and productivity gains	Capping and sharing resources to ensure everyone's basic needs are met
Who are the change agents?	State and market actors	Civically led and diverse distributed networks of social movements and citizens
Knowledge production	Knowledge is scarce and can be bought or sold	P2P-networks, free and open source, knowledge is considered a common good

The role of intermediary actors, sometimes also referred to as network brokers, knowledge brokers or mediators, have been advocated as crucial to enable collective action for sustainability transitions (e.g., Ernstson et al., 2010; Batory and Svensson, 2019; Ehnert et al., 2022). For GIs, the role of sustained intermediary supporters from independent actors (such as NGOs) is important for their survival and persistence (Hodson et al., 2013; Wolfram, 2018). Such intermediary actors bridge trust, skills, or language between grassroot initiatives and authorities (or others) (Kivimaa et al., 2019) and "distil" important lessons to other actors (Wolfram, 2018 p.12). Intermediary actors also redefine social roles to include more inclusive forms of governance in their favour, pattens that may emerge when GIs consider themselves a part of a community with shared interests (Wolfram, 2018; Maldonado-Villalpando et al., 2022). Through processes of intermediation, GIs may diffuse and develop beyond the local scale ranging from: (a) isolated initiatives (local phase), to (b) first exchanges of experiences among initiatives (inter-local phase), to (c) an increasing aggregation of knowledge across initiatives (trans-local phase), to (d) the consolidation of a robust niche that coordinates local projects and exerts a strong influence on the regime (global phase) (Geels and Deuten, 2006; Wolfram, 2018). Through such processes GIs may earn resources from regime actors, which may lead to selective modifications of the innovations (Wolfram, 2018), or attempts to circumscribe the GI to fit and conform (Smith and Raven, 2012). GIs may be sensitive to external control, as they tend to favour peer-to-peer knowledge diffusion, rather than aggregation or standardizations aimed at widespread commercialization (Seyfang and Longhurst, 2013). For GIs, the protected spaces (niches) are concrete places in cities, and the existence and the persistence of GIs is therefore dependent on the availability of such places (Dobernig and Stagl, 2015). In these places, GIs enact new visions of sustainability where change is not driven by global trends (landscape), but rather bottom-up, through communities that experiment with alternative and innovative solutions (Seyfang and Longhurst, 2013; Maldonado-Villalpando et al., 2022). In this way, GIs often have an innovative advantage in being somewhat disconnected from the regime (Borgström, 2019). While GIs can be an important source of sustainability solutions, for larger scale societal changes to occur beyond niche-levels, new networks and collaborations between actors and across sectors, are needed (Wolfram, 2018).

2.3. Transformative capacity for post-growth

Transformative capacity is a qualitative measure representing the collective power to change (Wolfram, 2016; Borgström, 2019). It can be defined as "the collective ability of the stakeholders involved in urban development to conceive of, prepare for, initiate and perform path-deviant changes toward sustainability within and across multiple complex systems that constitute the cities they relate to" (Wolfram, 2016, p. 126). It is an emergent property reflected in the attributes of urban stakeholders, their relationships, and the context in which they are embedded. Capacity can be defined as "the ability of individuals, organisations and societies to shape their development and adapt to changing circumstances" (Wolfram, 2016, p. 122). Therefore, transformative change arises from empowered actors that modify the rules governing who gains access to resources.

The extent to which different actors are empowered, or disempowered, is closely related to discussion on capacity. While power can be defined as the "(in)capacity of actors to mobilise resources and institutions to achieve a goal" (Avelino, 2017, p. 507), empowerment is the "process through which actors gain the (in)capacity to mobilise resources and institutions to achieve a goal" (Avelino, 2017 p. 512). To achieve their goals, change-makers mobilise capacities, such as mental, human, artefactual or monetary. Their transformative capacity depends

on whether they have the right capacities, at the right times, to mobilise such resources. For example, whether they have access to any resources at all, or have developed strategies to mobilise them (Avelino, 2017). However, sheer access to resources does not per-se imply empowerment, rather it depends on an actor's willingness or ability to mobilise resources (Avelino and Rotmans, 2011; Raj et al., 2022). The extent to which someone is empowered may depend on them having a sense of competence, impact, control or meaning in their activities. For these reasons, well-intended attempts to empower someone may result in opposite effects or unfavourable dependencies (Avelino, 2017).

3. Methods

3.1. Case selection

This article is based on findings from qualitative case study research using semi-structured interviews. The interviews were recorded, transcribed, and lasted approximately 45–70 min each. Interview guides can be found in the supplementary materials Appendix A. The case study approach was deemed suitable for the study, as it is a common way of studying situations in depth, while narrowing down broad research topics to investigate complex and contextual relationships that operate in a specific social setting (Yin, 2011). To study the transformative capacity of GIs for post-growth, GIs in the collaborative economy grassroots movement in Gothenburg, Sweden, was selected for interviews as it represents a movement with a rich variety of initiatives and projects. The interviewee selection was informed by generic purposive sampling from the 'Smart map', a website that maps commons-oriented GIs in Gothenburg (Bryman, 2012; Smart Map, 2019).

To identify actors that play key roles for evolving the GI network in Gothenburg, snowball sampling was used (Bryman, 2012). Such key individuals can be described as helicopter people, leaders and/or entrepreneurs, a key selection criterion being their ability to offer a bird's eyes view of the studied topic and context. The primary data was collected through semi-structured interviews on site during November 2018–February 2019. All interviews were held with key representatives from the initiatives or projects, such as founders or project managers. The interview sample consisted of fourteen interviewees with grassroot initiatives (n = 6), civil society NGOs (n = 2), real-estate companies (n = 4) and local government officials (n = 2). See Fig. 1 for an overview.

For the empirical purposes of the study, a multi-actor approach was adopted (Avelino and Wittmayer, 2016), where the niche-level was defined as the innovative spaces held by GIs and intermediary organisations in Gothenburg. The regime level was defined as the municipality and real-estate actors representing dominant regime configurations. The landscape level was defined as that of the exogenous dominant and counter macro-trends reflected in the actor's relationships to the larger scale system conditions, e.g., the growth-based and post-growth paradigms. Table 2 presents the interviewed actors in the study. In the results section the actors are referenced to by their ID in Table 2.

3.2. Data analysis

To analyse the interview data, a systematic reduction of data was undertaken through thematic coding using the software Nvivo12. The coding followed the research questions that that guided data collection (Bryman, 2012). The case analysis was supported by supplementary data such as websites or mission statements, for example, what the mission statements said on the grassroots initiative's website. The in-depth analysis was used to aid analysis of the actor specific and relational processes occurring, with the goal of generating a bird's eye view of the GI context in Gothenburg. An overview of the coding themes is found in the supplementary materials Appendix B.

For our first research question, the focus was to understand how the goals and visions of GIs may be compatible with a post-growth economic economy (Section 2.1) For our second research question, the focus was to understand emergence and persistence of GIs, by drawing on the theory of strategic niche management to construct a chronological timeline of longitudinal developments and changing actor roles (Section 2.2). To construct the timeline, themes were inductively derived from interviews, and the timeline was then validated together with a key interviewee. The third research question was informed by literature on transformative capacity and (dis)empowerment in transitions (Section 2.3). To understand patterns relating to the latter topics, the expressed strategies, and challenges for reaching the interviewee's expressed goals were identified, after which aspects considered of high relevance for the empowerment or disempowerment of GIs were derived from the data. The goal was to identify and discuss capacities, dependencies and strategies that may (dis)empower GIs capacity for post-growth transformations.

3.3. Background: The Swedish civil society context and the collaborative economy movement in Gothenburg

Sweden offers a unique context for a reconciliation between a welfare state and civil society to generate innovative solutions that address climate change. While Sweden has followed the international trend of privatisation and decline of the universal welfare state (Grassman, 2014, p.156), it has a history marked by unique collaborations between state, market and civil society. This context offers a promising setting to identify how civil society actors could complement the welfare state as a source of innovation for sustainability (Pestoff, 2009).

The Swedish city of Gothenburg is an international frontrunner in terms of grassroots initiatives, since it is home to multiple local initiatives and projects referred to as the "collaborative economy", that form a sharing economy movement led by civil society (Lund et al., 2021). The initiatives are led by local groups of activists that promote sharing practices of bartering, lending, renting, gifting or swapping (Botsman and Rogers, 2011; Kostakis and Bauwens, 2014). In 2014, the municipality of Gothenburg set a policy target to reduce consumption-based carbon emissions from its citizens by 43% by 2035, from the current 8 tons of co2 per person to 3,5 tons by 2035 (Göteborg, stad, 2014).

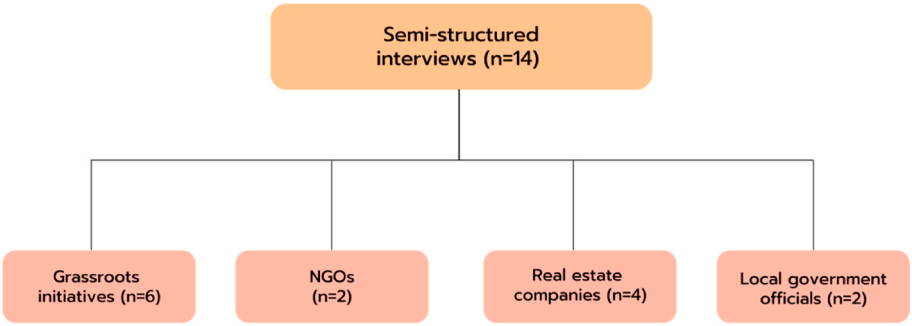

Fig. 1. Overview of data collection.

Table 2
List of interviewed actors and their ID as referred to in this article.

ID	Actor	Change-making-role	Niche or regime	Description
SCG1 & SCG2	**Municipality coordinators "Sharing city Gothenburg" (SCG)**	Institutional entrepreneurs	Regime	Sharing City Gothenburg, 2019 (SCG) was a national innovation programme for testing and developing a sharing economy in four Swedish cities (2017–2020). In Gothenburg, real estate actors were involved in the project gathering 15 stakeholders across sectors to develop sharing economies in a urban development area called "Masthuggskajen".
AS	**Älvstranden**	Municipality real-estate partner in SCG	Regime	Municipal real-estate developer in charge of coordinating the development of a sharing economy in "Masthuggskajen"
RB	**Riksbyggen**	Real-estate partner in SCG	Regime	Co-operative real-estate company owned by construction unions, local housing associations and other national co-operative associations
EH	**Elof Hansson**	Real-estate partner in SCG	Regime	Privately owned real-estate company that invests, owns, develops, and manages real-estate in "Masthuggskajen"
CG	**Municipality representative "Circular Gothenburg"**	Institutional entrepreneur	Regime	Municipality run pilot project whose aim is to facilitate a circular economy
FT	**Framtiden AB**	Real-estate partner in Fixoteket	Regime	Real-estate shareholder group for all municipality owned real-estate companies in Gothenburg
IO1	**Studiefrämjandet**	Intermediary organization	Niche	Sweden's largest non-profit study association for adult education. They organise study circles, cultural events, seminars (Studiefrämjandet, 2019)
IO2	**Hyresgästföreningen**	Intermediary organization	Niche	Sweden's largest tenant's association with over half a million members. Their core mission is to support members with advice and support in their contact with local landlords.
CEG	**Collaborative Economy Gothenburg (CEG)**	Transformative leader Grassroots initiative	Niche	Grassroots initiative who created the "Smart map". The association aims to facilitate dialogue across private, public and private sectors on the collaborative economy.
FB	**Fritidsbanken**	Grassroots initiative	Niche	Library for sports gear. The initiative lends out a variety of sports gear for free and collects sports gear that would otherwise go to waste.
TL	**Toy Library**	Grassroots initiative	Niche	Library for toys where you can swap or borrow toys, free and open to everyone.
BK	**Bike kitchen**	Grassroots initiative	Niche	Repair hub for bikes and a meeting place for biking culture to share knowledge on bikes and cycling.
SK	**Solidarity kitchen**	Grassroots initiative	Niche	Food-sharing initiative that collects food that would otherwise go to waste by collecting leftovers from food chains
DL	**Digidem Lab**	Grassroots initiative	Niche	A hackerspace aimed at educating about technical solutions for the common good.

Through a public-civic partnership between a local GI called "Collaborative Economy Gothenburg" (CEG), and the municipality, the Smart map website shown in Fig. 2 was launched in 2016. The map includes a variety of not-for-profit GIs and common good resources such as public gardens in the city. It also includes a few private companies, economic associations, and municipality projects. However, most of the GIs in the city have emerged in a bottom-up manner and there are relatively few private or profit-driven initiatives belonging to the movement (Sulkakoski, 2018).

The initiatives shown in the Smart map belong to different categories that relate to sharing of knowledge, food, mobility, things, and spaces. Any initiative or project shown in the map must also adhere to a criterion defined by CEG, for it to be included. The initiatives in the map must also be open to everyone, be free or not-for-profit, have a local community and advocate for access over ownership or urban commons. The criterion also require that initiatives promote any of the social practices of renting, sharing, swapping, borrowing, e.g., not buying or selling (Pers. com CEG, 2019).

4. Findings

The aim of this study is to understand the capacity of the collaborative economy grassroots movement in Gothenburg to transform the economy in a post-growth direction. In this section, we discuss our findings in terms of (1) how radical versus moderate features are reflected in the niche and regime actors (Section 4.1), (2) how the studied grassroots movement in Gothenburg have developed over the years (Section 4.2), and (3) how the movement is currently being empowered or disempowered (Section 4.3). Finally, we outline policy recommendations on how the transformative capacity of GIs in Gothenburg and elsewhere could be strengthened to support post-growth transformations (Section 4.4). Our findings are structured around enabling and constraining aspects of change, with a focus on how transformative change could continue to occur, while highlighting and discussing risks that may constrain the transformative capacity for GIs.

4.1. Enabling change: how the collaborative economy in Gothenburg enacts post-growth transformations

The goals, visions, and expectations of what any innovation or transformational process is to achieve is fundamental to enable lasting transformative change (Geels, 2011). Post-growth goals and visions focus on equitably meeting everyone's needs with minimal economic activity, to reduce environmental pressures (Parrique, 2019). Therefore, GIs that align with post-growth transformations will focus directly on meeting human and environmental needs, and on eliminating unnecessary production and consumption.

At the grassroots level in Gothenburg, the interviewed grassroots initiatives envisioned that the collaborative economy would provide new local meeting places that foster trust and community, to create a safer and more inclusive city (TL, IO2). Others expressed how value-driven local and social enterprises would eventually grow into being a natural part of society similarly to that of libraries (FB, CEG). Several initiatives also voiced the importance of allocating municipal resources to grassroots initiatives, to enable a citizen-led, yet municipality supported, collaborative economy (CEG, SK SCG1, IO2). In addition, a future with more localised and decentralized society was described, where use-value and knowledge of how to repair things has gained a higher societal status (CEG, IO2, SK). A project manager at the grassroots intermediary actor, Hyresgästföreningen, said:

> "Currently the collaborative economy is not really seen as a threat to the market economy and capitalism, because it operates under the radar. But in the long-term I think that it will overcome capitalism"

From all the interviewed GIs, it was also clear that social purpose and impact signify the foundation of their activities. Their missions, listed in

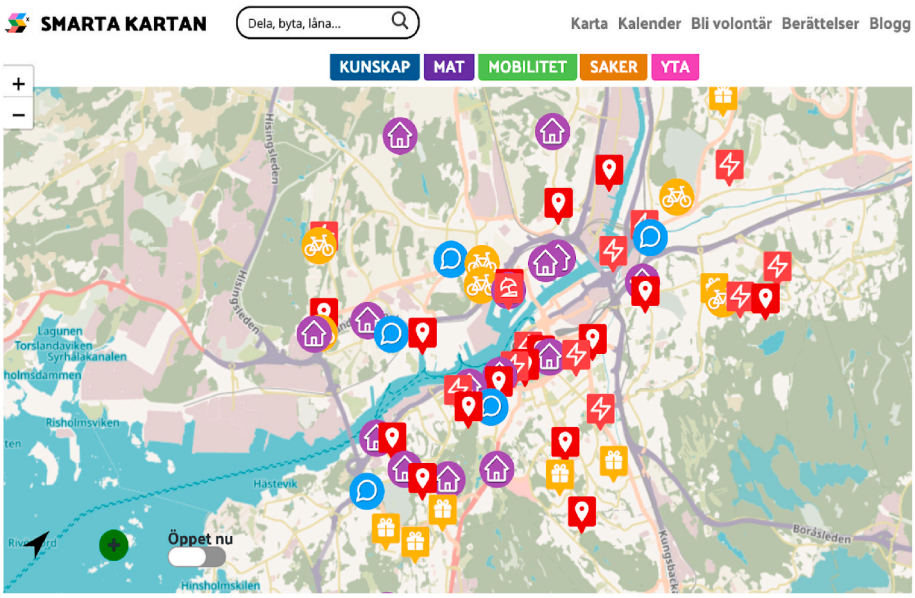

Fig. 2. The Smart map – a website mapping GIs in the collaborative sharing economy of Gothenburg.

Table 3, were all directed at social impact, purpose, justice, joy, and openness, values that are very compatible with post-growth economy (Bollier, 2014; Hinton, 2021a, 2021b) The Bike Kitchen initiative (BK), a local meeting place to repair bikes voiced an example:

> "We provide knowledge and lend tools. There is no money involved, this way we get smiles when people have their bike fixed. We are creating social capital, that is what drives me to do this." (BK)

Overall, the grassroots initiatives envisioned a future in which bartering, borrowing, and sharing practices have become a more natural part of society (e.g., Botsman and Rogers, 2011), while the power over resources and decision-making has increasingly moved from hierarchical institutions to networks of citizens as the primary change makers (e.g., Bollier, 2014; Grandadam et al., 2022). These visions suggest that the collaborative economy movement in Gothenburg demonstrate transformative power of social change compatible with a post-growth economy (Göpel, 2016; Hinton, 2021a). As opposed to profit-oriented goals, the social missions of the collaborative economy movement flip the purpose of economic activity toward strengthening social relations and sustainable resource use, as opposed to profit or GDP-growth (Bollier, 2014; Hinton, 2021a). There is a strong emphasis on sharing, lending, and swapping to meet needs without increasing consumption of new products and resources. These mind-sets and practices hold the potential to replace rules and norms of the growth-based paradigm, and can thus be considered radical seeds of change, that if supported could develop to enable larger scale sustainability transformations (Moore et al., 2015; Göpel, 2016; Avelino, 2017).

Table 3
Social missions of interviewed grassroots initiatives in Gothenburg.

Initiative	Mission statement	Societal issues addressed
CEG	To promote sustainable consumption, create dialogue and collaboration between civil society, public sector and private sector.	● Unsustainable consumption ● Increasing economic inequality
Fritidsbanken	To increase people's access to play and leisure and exercise for health.	● Lack of health and leisure ● Climate change
Toy Library	To promote sustainable consumption and waste reduction through the lending of toys.	● Poison-free play for children ● Unsustainable consumption ● Climate change
Bike kitchen	To be a free and open do-it-yourself workshop for bikes, focus on knowledge and learning.	● Climate change
Digidem Lab	To promote participatory democracy through backing up projects, citizen platforms, lectures, workshops, hackathons.	● Income inequality ● Social segregation ● Political extremism
Solidarity kitchen	To reduce food waste both in households and in food stores. Create a gift economy for food that would otherwise go to waste.	● Unsustainable consumption ● Climate change

At the regime level, in contrast to the visions and goals expressed by GIs, the interviewed municipality and real-estate actors did not express visions of the same radical depth or specificity (RB, AS, EH, SCG2). Their visions were instead framed around the potential of the collaborative economy to contribute to a more resource-efficient society, by increasing access to goods and services as opposed to ownership. However, in the one of the municipality-run projects, regime actors expressed a positive stance on the potential for GIs to contribute to improved social cohesion in the local neighbourhoods of a testbed development area. A key goal for the regime actors was to facilitate more sustainable lifestyles for their tenants or citizens, and to achieve this, one strategy is to use or support solutions provided by local GIs (RB, AS, SCG1). Overall, the regime involved fewer visions and less specific descriptions of the types of initiatives or services a future collaborative economy would entail, except for the test-bed coordinators at the municipality, who provided distinctions between radical and moderate features of the collaborative economy (SCG1). The interviewed real-estate actors also stated being open to finding the right types of initiatives or more commercially viable solutions, which would oppose to the not-for-profit forms and characteristics of the interviewed GIs.

These findings partly suggest that the regime actors' goals do not explicitly contradict that of the GIs, which would indicate a synergistic goal alignment developing between niche and regime levels (Avelino, 2017). Indeed, these findings suggest that GIs can succeed in creating innovative solutions where regime actors fail to deliver results, such as to enable more sustainable lifestyles or social cohesion in their localities (Burgess et al., 2003). However, while the goals and visions for a collaborative economy by niche and regime actors in Gothenburg may appear synergistic, the different theories of change between market, state and civil society may lead to conflicts of interest that had not yet

surfaced in Gothenburg, but that may emerge in the future (Avelino and Wittmayer, 2016). In particular, seeing as the GIs envision a bottom-up transformation led by decentralized networks of citizen projects, supported by the municipality, rather than by the municipality or other regime-based actors. In considering this paradox, questions arise as to how larger-scale transformational change would unfold and who the primary change agents are in it (Wolfram, 2018).

4.2. Enabling change: importance of intermediaries and transformative leadership for the emergence of the collaborative economy

While radical visions are fundamental to transformative change, for GIs to impact their urban environments long-term, a better understanding of how such innovations emerge and persist is needed (Wolfram, 2018; Ng et al., 2022). In Gothenburg, we find that two conditions have enabled the emergence and persistence of the diverse GIs in the city. These are (1) support from intermediary organisations, and (2) transformative community leadership.

4.2.1. Introductory capacity phase (2013–2016)

In Gothenburg, intermediary support for GIs is provided by two established Swedish NGOs, Studiefrämjandet and Hyresgästföreningen. These actors play key roles in providing necessary support for GIs by supporting initiatives at an incubation stage with small funds or a place to be, without any demands in return. The support occurs through personal contact, making these actors not only important for incubation, but also for identifying specific needs that initiatives might have to thrive and persist (IO2). Our findings suggest that the grassroots intermediary support provided by local NGOs in Gothenburg play an important role in enabling the mere existence of the rich variety of active grassroots initiatives in the city. These findings contribute to the growing literature on the importance of intermediary support (e.g., Ansell and Gash, 2012; Bodin, 2017; Kivimaa et al., 2019; Boyle et al., 2021; Grimley et al., 2022) and validates their importance for the incubation and development of grassroots initiatives (Wolfram, 2018).

In terms of transformative leadership, the association Collaborative Economy Gothenburg (CEG) have played a key role in advocating for the value of GIs by bridging their ideas to the municipality. During an introductory phase of grassroots development (2013–2016), CEG were inspired that a new type of global economy based on principles of sharing, trust and collaboration was emerging (CEG). Following this, CEG identified and reached out to active GIs in the city. The GIs were invited to meet each other and the municipality through a series of lectures and meetings adhering to the idea of creating a collaborative sharing economy. These events resulted in new networks forming between and across local initiatives and the municipality (SCG1, SCG2). The formation of these new networks also allowed for the realisation that the grassroots activists and the municipality shared a common goal to support GIs in the city, to reduce consumption-based emissions in the city (CEG, SCG1). This led to a public-civic partnership forming between the municipality and CEG to create the 'Smart Map', a website mapping GIs in the collaborative sharing economy in Gothenburg. These events highlight the importance of new network forming between previously isolated GIs (Geels and Deuten, 2006; Grimley et al., 2022), and leadership that foster new relations between GIs and authorities, for strengthening the transformative capacity of GIs (Wolfram, 2016). A municipality representative highlighted the leadership role that CEG had played by bridging the gap between authorities and GIs:

> "We are grateful to have an NGO like this in Gothenburg. They have played an important role to facilitating the local ecosystem of sharing initiatives in the city." (SCG2)

4.2.2. Diffusional capacity phase (2016–2019)

The civic-public partnership between CEG and the municipality in 2016 enabled a new phase in which the municipality is taking a more prominent role to support grassroots-led initiatives and a facilitate a collaborative sharing economy in Gothenburg. Through projects such as "Fixoteket" (2017–2019) and Sharing City Gothenburg (SCG) (2017–2020) the municipality has begun to test new projects that align with these ideas. In the SCG-project, the GI of Gothenburg were in 2019 introduced to real-estate companies and municipality actors (SCG1). The project involved matchmaking GIs with real-estate owners in an urban development area of Gothenburg and attempts to strengthen the capacity of GIs, for example through business model development or social impact assessments (SCG2). Meanwhile, at the grassroots' level, since meeting each other and the municipality in 2016, GIs in Gothenburg are increasingly learning from each other and aggregating lessons as the initiatives experiment and evolve. A representative from the intermediary NGO Hyresgästföreningen said:

> "These local projects are building a whole system. We test methods and projects to produce data and knowledge that can be scaled. This is how we think about everything here, that it must be scalable." (IO1).

Fig. 3 describe how grassroots networks in Gothenburg have developed from a few isolated civic entrepreneurs in an introductory phase, toward a more robust grassroots niche in a diffusional phase, that have managed to influence regime actors (Geels and Deuten, 2006). These findings suggest that the collaborative economy movement has emerged through an introductory capacity phase (2013–2016) where initial meetings sparked a novel civic-public partnership, that enabled a diffusional capacity phase (2016–2019), where the municipality is taking on a more active role to support the diffusion of GIs, by launching pilot projects, reviewing legal regulations, while also introducing and translating the ideas of GIs to various regime actors (SCG2).

While intermediary supporters play an important role to incubate GIs in an introductory phase, the role shifts somewhat as GIs increasingly connect with regime actors. In the diffusional capacity phase, intermediation between actors increasingly occurs between local initiatives and the municipality and other regime actors, to aggregate knowledge gains, identify goal alignments, specific needs of the initiatives or identify ways to scale the initiatives up or out (Moore et al., 2015; Wolfram, 2018; Kivimaa et al., 2019). As illustrated in Fig. 3, these findings suggest that the intermediation role shifts toward an increasing focus to aggregate knowledge and distil lessons learned, as GIs are introduced to regime actors and the municipality engages in pilot projects and conducts business model development or social impact evaluations for GIs (Geels and Deuten, 2006; Wolfram, 2016).

These findings illustrate the role, importance, and power of transformative leadership to unite grassroots initiatives through a shared trans-local collective identity (Seyfang and Smith, 2007; Loorbach et al., 2020; Raj et al., 2022) to influence regime actors. In this case, the collective identity is the global collaborative economy movement (Botsman and Rogers, 2011). In the case of Gothenburg, these favourable conditions of intermediary support and trans-local identity and connections, have enabled the movement to develop beyond isolated initiatives, to consolidate and coordinate local projects that clearly influence regime actors (Geels and Deuten, 2006; Maldonado-Villalpando et al., 2022; Grandadam et al., 2022). These findings provide new insight into, and validate, previous research in terms of the favourable conditions that enable GIs to influence regimes and spark larger-scale societal changes by forming transformative networks that enable collective action by multiple actors (Hodson et al., 2013; Wolfram, 2018; Borgström, 2019; Grimley et al., 2022).

Fig. 4 maps an emerging transformative space of supportive network connections between GIs and the Gothenburg municipality. The new phase of grassroots development in Gothenburg suggests that a radical niche-regime space could be opening, e.g., a "niche that has grown powerful enough to gain a number of new characteristics" (Avelino, 2017, p. 510). In this case, the new characteristics are the new relationships forming between the Gothenburg civil society and the

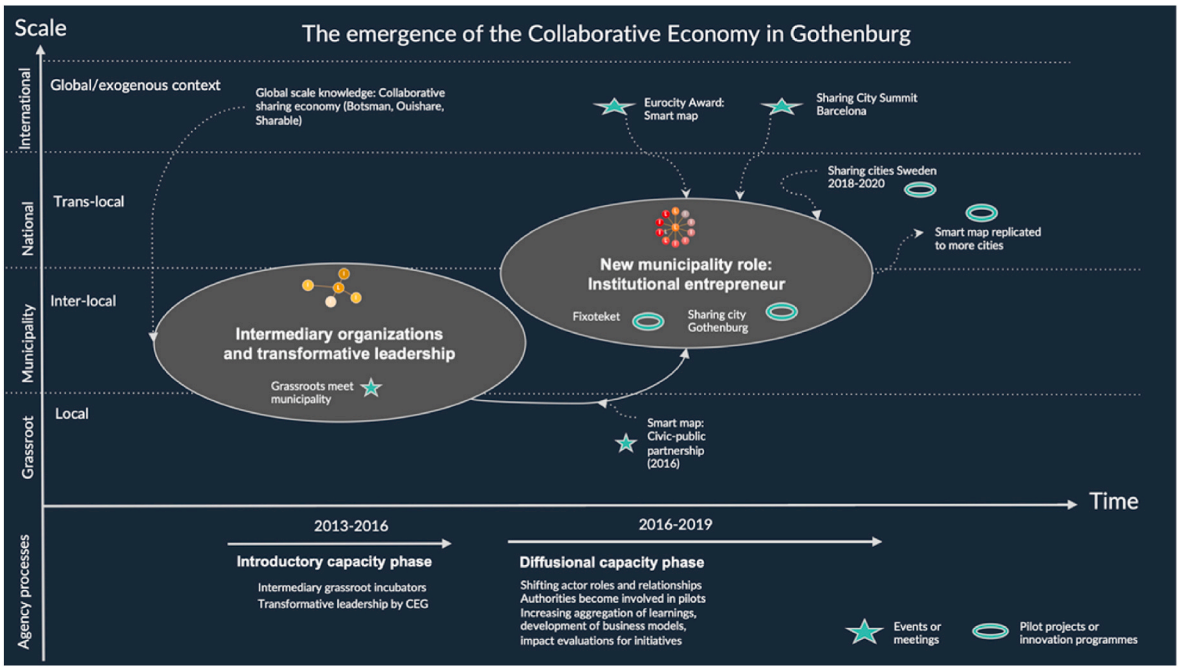

Fig. 3. A timeline mapping the emergence and formation of the collaborative economy grassroots movement in Gothenburg during 2013–2019. The phases and scales in the figure are adapted from Geels and Deuten (2006).

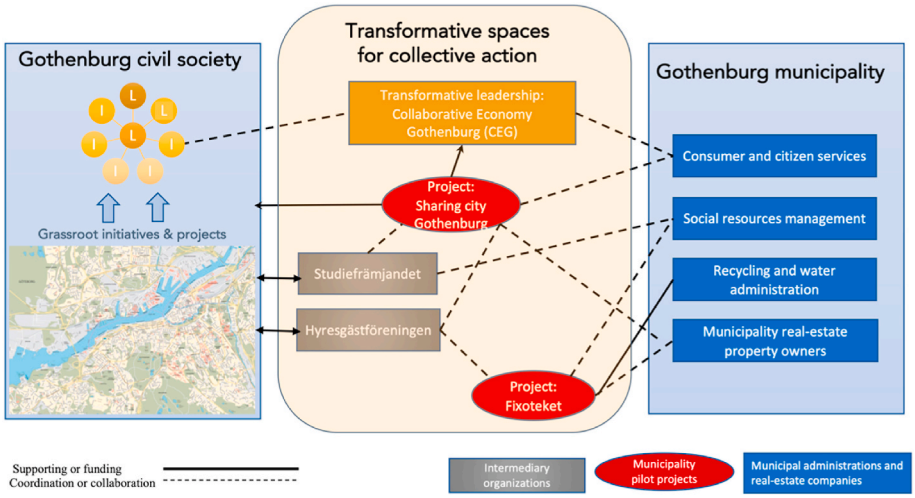

Fig. 4. An emerging transformative space of collective action between grassroots initiatives from Gothenburg civil society and the municipality in 2019.

municipality. These findings suggest favourable conditions for grassroots empowerment, which strengthen the capacity for post-growth transformations by GIs in Gothenburg (Wolfram, 2016). In addition to the presence of intermediary support and transformative leadership by CEG, there are two additional reasons that speak for the transformative potential of these spaces. The first one is that the supportive stance of Gothenburg municipality suggests that synergistic relationships have developed between the GIs, and the needs, networks and resources held by regime actors in Gothenburg (Avelino, 2017). The second one is that the municipality in Gothenburg have recognized the importance of being sensitive to different GI needs, not to take over or threaten their autonomy, an understanding that is critical to enable grassroots empowerment (Wolfram, 2018).

4.3. Constraining change: grassroots initiatives navigating dependencies, trade-offs and (dis)empowerment paradoxes

While the new diffusional phase in Gothenburg provides access to new resources and opportunities for grassroots activists, the new phase and changing roles also involved new risks and challenges. As GIs in Gothenburg earn the confidence of regime actors, they also gain access to new funding or subsidised facilities for their activities, resources that, for example, can enable them to hire people (TL, FB, DL). Upon gaining such resources, GIs may trade-off past dependencies for new ones. For example, by being formally or informally connected to the municipality, GIs can find themselves dependent on external support or locked in by rules or regulations that, on the one hand, may keep the initiatives afloat, but on the other hand, simultaneously risk their long-term autonomy or self-sufficiency. Such trade-offs were illustrated in Gothenburg by the Toy Library not being able to sell coffee, due to leasing a municipality owned facility (TL), or by Fritidsbanken limiting the

duration time for how long users can borrow items, to not compete with local businesses (FB), in accordance with municipal non-compete rules (SCG1). Additionally, similar risks of grassroots disempowerments were demonstrated in initiatives that earned municipality funding to replicate the innovation to other locations in the city, but that did not have human resources to deal with the administrative demands that come with such financial grants.

These findings suggest that as GIs become increasingly connected to the regime, they may trade-off old dependencies or challenges (no place to be, or being dependent on volunteers), for new ones (administrative burdens, or adhering to non-compete rules). This exemplifies how well-intended efforts from authorities (or others) to empower or scale GIs can paradoxically result in disempowerment (Avelino, 2017; Raj et al., 2022). For some GIs, it may even be preferable to stay autonomous, for example by actively choosing not to deal with money, and instead depend on voluntary human resources. Importantly, these findings serve as a reminder that any empowerment efforts from local authorities or others toward GIs, fundamentally depend on the willingness, capacity, and goal of the initiative in question (Avelino, 2017; Watson et al., 2020).

Since our findings suggest that GIs may trade off a certain degree of autonomy or control in the process of gaining municipality support, it unveils a paradoxical relationship that could constrain the long-term grassroots autonomy and their potential to become more than a marginal add-on to the for-profit economy. For this reason, questions arise as to whether there are better long-term options for GIs to seek support for their ideas (Borgström, 2019). Such support can better protect GIs from political influences while balancing on the one hand, their connectedness and dependency to regime actors, and on the other hand, their autonomy and freedom (Wolfram, 2018).

4.4. Policy recommendations and future research

To enable GIs to develop beyond isolated initiatives or projects, their capacity to do so can be strengthened (Borgström, 2019; Grandadam et al., 2022). Policy makers can draw on the lessons in this article to find new ways of supporting transformative local initiatives to support post-growth transformations. The key lessons are to connect diverse isolated initiatives to trans-local identities, while ensuring independent local intermediary supporters. However, if GIs are to enact larger scale transformations, more organised and sustained support is needed. This section proposes some policy and future research avenues, based on the Swedish Gothenburg case, aimed at any actor wishing to work or understand how the transformative capacity of GIs can be strengthened. Our hope is that these recommendations will prove useful, in particular for actors working in a European grassroots context.

While our study provides valuable insights into the potential of grassroots initiatives in fostering a post-growth economy, we acknowledge that it does not comprehensively explore the full spectrum of economic activities undertaken by these initiatives, particularly in the context of their alignment with the post-growth framework. This limitation highlights the need for more in-depth research to understand the diverse economic practices within grassroots movements and their potential contributions to sustainable urban development and the post-growth framework.

Future studies should focus on more comprehensive analyses of the economic models of grassroots initiatives (GIs) to evaluate their contribution to long-term sustainability, including comparative research across different urban contexts. Additionally, it's crucial to conduct in-depth explorations into the specific economic activities of GIs, assessing how these align with post-growth principles and their broader implications for urban development. Longitudinal studies are also recommended to gauge the enduring impacts of GIs on sustainability. There is also a pressing need for the development of new metrics that capture the social and environmental outcomes of GIs, moving beyond traditional economic indicators. Such research would provide a more nuanced understanding of the multifaceted contributions of grassroots initiatives in terms of community well-being, ecological benefits, and social equity.

4.4.1. Develop co-operative business models

The long-term persistence and impact of GIs ultimately depend on external conditions, such as project-based funding or volunteers. This dependence must be reduced to strengthen their autonomy and self-sufficiency (Borgström, 2019). A promising strategy to strengthen these capacities is to develop co-operative business models for those willing and able to do so. Co-operative business models suit GIs, because they consider monetary profit a means to reach a social or ecological end. Such business models would not only strengthen the self-sufficiency of GIs, but also safeguard their social missions. From a post-growth standpoint, not-for-profit business models (Hinton, 2021a, 2021b) would ensure that social-ecological benefit is at the core the business model (Göpel, 2016). Importantly, such business models would also reduce dependency on external support, making initiatives less susceptible to external shocks, such as losing funding, being forced to pay rents or change location or facilities. To be successful, the development of co-operative business models requires close collaboration between GIs and intermediary actors. Not only to ensure that the values and missions of the initiatives does not erode in the process, but also to build mutual trust and understanding as to why business models can be beneficial. In addition, to support autonomy of GIs, strategies are needed to waive the non-compete regulations that keep initiatives from conducting business activities that provide improved financial self-sufficiency, such as selling coffee or lending items for longer periods of time. When partnering with regime actors such as municipalities, such rules are actively constraining GIs from developing into something more than merely an add-on to the for-profit economy.

4.4.2. Strengthen the intermediary supporter role

Since a core strength of GIs is their ability to innovate somewhat independently from regime structures (Feola and Nunes, 2014; Frantzeskaki et al., 2016), a key policy strategy to empower such movements is to strengthen the regime-based intermediary supporter role (Kivimaa et al., 2019; Grimley et al., 2022). To ensure long-term local support, the dependency on individual entrepreneurs acting as intermediaries, as in the case of Gothenburg, must assume a more organised form. An inspiring example of this is the 'Community Support Centre' set up in Seoul, a non-governmental organisation responsible to implement grassroot specific support (Wolfram, 2016, p7). While such a community support centre could be funded by municipality funds allocated for social innovations, the organisation should be independent in its operations by being driven by community leaders. This equivalent of a start-up incubator for GIs, would safeguard the continuity of intermediary support, while decentralising regime power, to maintain a favourable degree of separation between local initiatives, municipalities, and regime actors. This type of organisation would work to coordinate local grassroots networks, address their specific needs, while safeguarding tacit knowledge and offsetting any grassroots scepticism toward government (Wolfram, 2016). It is a role that could be assumed or given to an existing intermediary actor, as these commonly are not-for-profit organisations which are more independent from the political regime as compared to state or municipality run initiatives (Hinton and Maclurcan, 2017).

4.4.3. Facilitate shared radical visions

The expectations and long-term visions expressed by GIs are inherently very diverse. However, as we have seen in Gothenburg, at the core, there are common social values and principles that can unite isolated GIs. As networks further develop or scale, the importance of holding on to these values increases, as does the risk of moderate regime co-optation, or capture of their ideas. To enable GIs to transform the economy in a post-growth direction, the visions, goals, and conflicts of

interests for multiple actors must regularly be allowed to surface, to facilitate systemic knowledge and shared visions (Wolfram, 2016; Raj et al., 2022). For GIs, this may be particularly challenging, seeing as civil society actors, municipality officials and businesses operate in worlds that adhere to different types of logics (Avelino and Wittmayer, 2016). As we have seen in the early pre-development phase of Gothenburg discussed in this article, niche and regime actors may differ in their specificity and ambition of what is to be achieved in the long run, highlighting the importance of shared expectations to enable transformative change (Geels, 2011). To empower such collective action, multi-actor visioning such as scenario or back-casting exercises can provide a promising way forward to strengthen the transformative capacity of GI (Loorbach et al., 2017).

5. Conclusions

We conclude that the collaborative economy movement in Gothenburg demonstrates the possibility for radical change, as they have post-growth compatible goals and visions that diverge from the macro scale for-profit economy paradigm. Our findings also highlight the important role of transformative leadership and intermediary supporters to enable GIs to develop from isolated local initiatives, toward trans-local consolidations that form movements that influence regimes. However, despite the potential for transformative change, if the autonomy of GIs is not safeguarded, the capacity of such movements to enact post-growth transformations will remain limited.

As we have seen, GIs may also face challenging trade-offs or dependencies as they earn resources from or become increasingly dependent on regime actors. To strengthen the transformative capacity of GIs we outlined three policy suggestions (a) develop co-operative business models, (b) strengthen intermediary role, and (c) facilitate shared radical visions. Future research should focus on generating deeper knowledge about the opportunities and barriers that GIs face in transforming the economy for sustainability, as well as how their capacities can be improved and how obstacles can be overcome. In particular, this could be done by mapping the goals, needs and capacities of different initiatives more in-depth and across different localities and over time, to better identify ways to support GIs' post-growth transformative capacities at different stages.

CRediT authorship contribution statement

David Enarsson: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing. **Jennifer B Hinton:** Conceptualization, Investigation, Supervision, Writing – original draft. **Sara Borgström:** Methodology, Supervision, Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that support the findings of this study can be made available from the corresponding author upon reasonable request.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jclepro.2024.140824.

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