

# Network leadership for transformative capacity development: roles, practices and challenges

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## Research Article

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**Non-technical summary.** A wide variety of social innovations exist today that offer urgently needed pathways for transforming societal systems into more just, sustainable and regenerative ways of organising human existence on this planet. However, a more systematic and practically useful understanding is needed of how individuals and organisations can strengthen the transformative capacity of people working on connecting, spreading, maturing and structurally embedding these innovations. This study presents an updated conceptual framework of network leadership roles and practices, and describes how these can contribute to more widespread, systemic and lasting impact of social innovations.

**Technical summary.** This study tests and refines a conceptual framework, describing the roles and practices of network leadership that can support the development of transformative capacities, in the context of social innovation networks. Such capacities include spreading social innovations in wider society, embedding them in policy and public discourse, and generating continuity and further development of social innovation activities. We studied five cases of transnational social innovation networks involving community-led and student-led sustainability initiatives. Practitioners in these networks were asked to rate and comment on the perceived recognisability and importance of network leadership roles and practices, as well as challenges, which we articulated in a previous study and further developed in the current study through participant observation and document analyses. This resulted in a revision of the roles and practices, the identification of relations between roles and a better understanding of how they can contribute to transformative capacity development. The interviews also helped to clarify the practical usefulness of the framework, suggesting possible applications for evaluating, prioritising and aligning roles performed by various individuals and organisations. The findings are relevant for better understanding and guiding distributed agency in transformative social innovation networks.

**Social media summary.** Roles and practices for network leadership to enable more widespread, systemic and lasting impact of social innovation.

## 1. Introduction

The urgent need for societal transformation is becoming increasingly recognised in research, policy and civil society, in the face of continued increases in greenhouse gas emissions, inequality and biodiversity loss (Olsson, Moore, Westley, & McCarthy, 2017). However, despite rising ambitions to deliver on the Sustainable Development Goals (United Nations, 2017), significant progress remains to be made to avoid disastrous and possibly irreversible damage to the biosphere and human wellbeing (United Nations, 2020a, 2020b).

A wide variety of (networked) social innovations (SIs) exist today that hold the potential to contribute to societal transformation in and across all subsystems of globalised society (Kaletka & Schröder, 2017; Pel et al., 2020). For example, community-led sustainability initiatives demonstrate lived alternatives to individualistic consumer culture and industrial food and energy production, and student-led sustainability initiatives demonstrate ways of reforming higher education to better equip youth to become responsible leaders and citizens.

However, the transformative potential of many SI initiatives remains largely underdeveloped, considering the persistence of mainstream institutions and an economic development paradigm that perpetuate deep social and ecological crises (Longhurst et al., 2016). Hence, an important question for research and practice is how SI networks can develop transformative capacity, that is the collective ability to realise transformative impact (Strasser, de Kraker, & Kemp, 2019).

Many academic insights addressing the question of collective agency, scaling of innovations and empowerment via networks have been developed in diverse fields, including transformative social innovation (TSI) theory (Pel et al., 2020), transition studies (Geels, 2005; Köhler et al., 2019), social and institutional entrepreneurship (Battilana, Leca, & Boxenbaum, 2009; Busch, 2019; Garud, Hardy, & Maguire, 2007; Howaldt, Kaletka, & Schröder, 2016), social

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movement studies (Crutchfield, 2018; Diani, 2013; Monticelli, 2018) and institutional theory (Battilana et al., 2009; DiMaggio, 1988; Scharpf, 2018). Across these fields, and in TSI theory in particular, the role of transnational networks was found to play a vital role in strengthening the agency of SI actors (Avelino, Dumitru, Cipolla, Kunze, & Wittmayer, 2020; Loorbach, Wittmayer, Avelino, von Wirth, & Frantzeskaki, 2020).

Yet, the focus on networks in a general sense leaves room for a more explicit and in-depth understanding of the roles and practices of the actors who steward those networks. To deepen this inquiry into the agency in networks, we focus on network leadership, which we understand as a distributed practice performed by a range of individuals and organisations who support and enable transformative capacity development in networks. We deem such a focus on the *practice* of network leadership as foundational for strengthening the practice-relevance of TSI theory, considering that generic descriptions of dynamics and empowerment mechanisms remain insufficiently accessible and useful in practice. While some existing studies took on such a practice lens (Dorland, 2018; Risien, 2019), the resulting conceptualisation of roles and practices still remained rather abstract and in need of empirical validation, to ensure recognisability and usefulness in practice.

In previous publications (Strasser et al., 2019, 2020) we articulated, empirically tested and partially refined a conceptual framework – the ‘3D framework’ – to study how SI networks can gain transformative capacity and contribute to achieving transformative impact in three institutional dimensions (depth, width and length). In continuation of this earlier work, the aim for the present study is to refine and identify the practical value of the elements of the 3D framework that focus on how roles and practices of network leadership can support transformative capacity development. We do so by addressing two related questions: (1) *which network leadership roles, practices and challenges are perceived as most recognisable and important by practitioners?* (2) *What can be the practical usefulness of the framework, outlining network leadership roles and practices?* These questions are addressed through a mixed-methods research approach, whereby empirical observations were validated and refined via quantitative and qualitative feedback from case representatives.

The article is structured as follows: Section 2 describes the elements of the 3D framework that are applied in this study and how they relate to the relevant literature; Section 3 explains the methodological approach and the studied cases; and Section 4 presents the empirical findings, focusing on the revised network leadership roles and practices, their contributions to transformative capacity development, typical challenges and the practical usefulness of the 3D framework. In Section 5 we discuss the significance of our findings considering our research questions and in Section 6 we conclude with the contribution of this study to the literature and practice of SI.

## 2. Theoretical framework

This section describes the central concepts constituting the theoretical framework we apply in this study and how they relate to and build on the literature on scaling, agency and empowerment via networks of transformative innovation.

We adhere to the definition of SI of TSI theory (Avelino et al., 2020; Dorland, 2018; Haxeltine et al., 2017; Pel, Dorland, Wittmayer, & Jørgensen, 2017, 2020; Wittmayer et al., 2019), which defines SI as ‘changes in social relations, involving new ways of doing, organizing, knowing and framing’ (Pel et al.,

2020, p. 5). A SI process is transformative if it involves ‘challenging, altering or replacing dominant institutions’ (Pel et al., 2020, p. 5). TSI theory was developed through analysing 20 TSI networks (ecovillages, impact hubs, hacker spaces, participatory budgeting, basic income, etc.) resulting in 12 propositions about how SI actors can be (dis)empowered in contributing to transformative change.

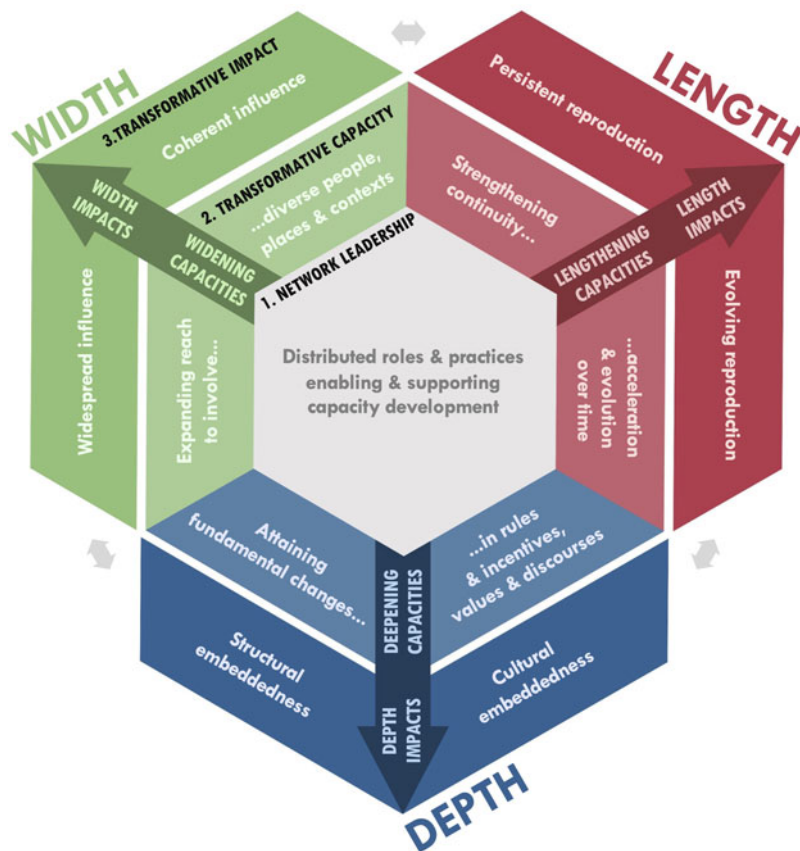
In the 3D framework (Strasser et al., 2019), we sought to distil essential insights from TSI theory (Haxeltine et al., 2017; Pel et al., 2020), into a conceptual framework that is recognisable and useful in practice. At the core of this framework is the view that dominant institutions as well as institutional changes developed by social innovators can be understood in terms of the degrees of their institutionalisation in three dimensions: *width* (wide-spread and coherent influence), *depth* (structural and cultural embeddedness) and *length* (persistent and evolving reproduction). The 3D framework, as used in this article,<sup>1</sup> also has three layers: (1) *network leadership* roles and practices enabling and supporting the development of (2) *transformative capacity*, the collective abilities which contribute to realising (3) *transformative impact* across three dimensions of width, depth and length (see Figure 1 for an overview of the 3D framework). Each of these layers consists of more specific framework elements (see Appendix A for the complete 3D framework, including the revisions resulting from the current study). The three types of transformative capacities largely align with and complement existing typologies that describe how SI initiatives can scale, diffuse or amplify their efforts to attain institutional changes (Lam et al., 2020).

In our recent study (Strasser, de Kraker, & Kemp, 2020), we empirically applied and tested the framework elements constituting transformative capacity and transformative impact (layers 2 and 3 in Figure 1), resulting in a revised version of those elements (see Appendix A), an indication of the interactions among transformative capacities and impacts, and feedback from practitioners about the recognisability and usefulness of those parts of the 3D framework. Yet, the framework elements relating to network leadership (layer 1 in Figure 1; see Appendix B for a summary of the original version) remained to be empirically tested, which is the aim of the present study.

A central proposition of TSI theory is to understand agency of SI through the lens of ‘translocal networks’ (Avelino et al., 2020; Pel, Wittmayer, Dorland, & Jørgensen, 2019), where local SI initiatives are rooted in their immediate cultural and geographical context, yet also embedded in networks of related initiatives in other places and contexts. Translocal networks can strengthen agency by means of a variety of empowerment functions. They can enable: wider reach and spread of SI approaches, cooperation with established institutions, generation and exchange of resources, mutual learning and collaboration, generation of critical mass and perceived legitimacy, construction of a collective identity, as well as a sense of belonging, autonomy, meaning, competence and impact (Avelino et al., 2019, 2020; Loorbach et al., 2020; Pel et al., 2020).

While TSI theory so far mainly addressed which types of networks exist and ‘the empowerment afforded to SI initiatives’ by means of those networks, less is known about processes of ‘empowerment afforded by SI initiatives’ (Pel et al., 2019, p. 22).

<sup>1</sup>In the original version of the 3D framework we included *learning processes* as an additional layer; however, in the process of conducting this study we found this unnecessary, as it is simpler and practically more useful to focus on the contributions of network leadership practices to capacity development directly.



**Figure 1.** Overview of the 3D framework. The three layers are numbered from 1 to 3. The green, blue and red colours represent the three dimensions of transformative impact and capacity. The double-headed arrows indicate interactions (based on Strasser et al., 2019, 2020).

Hence, further research is needed about the roles of actors in shaping various kinds of empowerment and how these interact with each other (Avelino et al., 2020; de Haan & Rotmans, 2018; Westley et al., 2013). The 3D framework responds to this gap by articulating specific roles and practices of network leadership and how these can contribute to empowerment, in the sense of transformative capacity development.

We approach network leadership as a distributed practice, performed by various individuals and organisations who support and enable capacity development in a network. This goes beyond a focus on individual leaders with formal leadership positions. While much of SI policy and scholarship has been preoccupied with ‘heroic individuals’ (Howaldt et al., 2016; Kaletka, Markmann, & Pelka, 2016), SI networks, or ‘SI ecosystems’, ‘are populated with a multitude of actors and organisations that co-shape social innovations’ (Pel et al., 2019, p. 4). Similarly, leadership studies emphasise the need to better understand leadership as a collective, distributed practice, instead of focusing on single individuals and top-down, centralised forms of leadership (Denis, Langley, & Sergi, 2012; Gronn, 2002; Quick, 2017). Nonetheless, certain ‘lead protagonists or focal actors’ (Pel et al., 2019, p. 4), who actively shape SI networks to empower SI initiatives can be empirically identified. These actors may be individuals or organisations with formal network coordination roles but can also be engaged members of local groups or other supporting actors who are not formally members of a network.

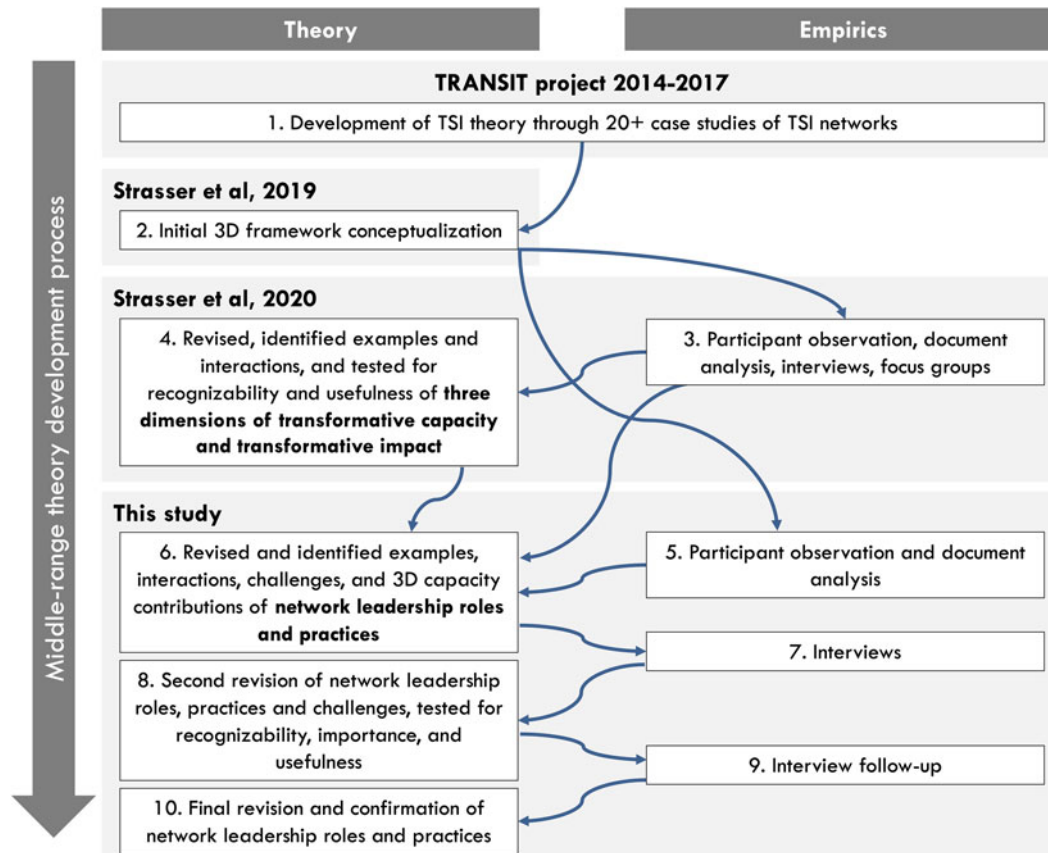
The experimentation with innovative modes of governance, leadership and decision-making is in itself a core aspect of what makes SI potentially transformative, as it relates to embodying values of co-creation, inclusive participation and working with emergent processes, for example, through implementing

organisational forms like sociocracy<sup>2</sup> (Pel et al., 2015, 2020). Hence, the *practice* of network leadership is a useful unit of analysis, considering that ‘analysing practice is a particularly apt approach to understanding dynamic, distributed, and emergent group phenomena (Feldman & Orlikowski, 2011), including the manifestation and consequences of leadership in multi-actor networks (Yammarino, Salas, Serban, Shirreffs, & Shuffler, 2012)’ (Quick, 2017, p. 448). It is beyond our scope to also address the specific leadership competencies (Bryson, Barberg, Crosby, & Patton, 2021) that are needed to effectively perform network leadership practices.

### 3. Methodology

This study builds on earlier work in middle-range theory development of TSI theory, which involves an iterative process of comparing empirical observations with theoretical constructs in order to make refined and empirically validated general statements (Haxeltine et al., 2017; Pel et al., 2017, 2020). Figure 2 depicts the main theoretical and empirical steps involved in this process, beginning with the TRANSIT project ([www.transitsocialinnovation.eu](http://www.transitsocialinnovation.eu)) (point 1 in Figure 2), based on which we articulated the initial 3D framework, and subsequently revised the layers constituting transformative capacities and impacts (points 2–4 in Figure 2). These steps were guided by methodological considerations for studying TSI processes (Haxeltine et al., 2017; Pel et al., 2017).

<sup>2</sup><https://sociocracy30.org/> – Sociocracy is social technology for evolving agile and resilient organisations at any size, from small start-ups to large international organisations.



**Figure 2.** Overview of middle-range theory development process, building on TSI theory developed in the TRANSIT project ([www.transitsocialinnovation.eu](http://www.transitsocialinnovation.eu), 2014–2017) and our previous publications (Strasser et al., 2019, 2020).

In the present study, we analysed five TSI networks (see Table 1): two meta-networks and three member-networks.<sup>3</sup> The meta-networks are ECOLISE and Students Organizing for Sustainability International (SOS). The member-networks are the European branch of the Global Ecovillage Network, Transition Network and the Green Office Movement. These cases were selected based on purposive sampling, considering ease of access to conduct in-depth case observations thanks to existing relationships and the availability of usable data from previous case work (Strasser et al., 2020). Our case selection was further based on theoretical sampling, considering the need for diversity of case contexts, as well as including two levels of networks: member-networks and meta-networks, of which the former are members.

We refined the network leadership roles and practices that we described in the original version of the 3D framework (Strasser et al., 2019) through a three-step process. First, we conducted qualitative case studies using participant observation and document analysis<sup>4</sup> (Denscombe, 2003) over a period of 3 years (2018–2021)

<sup>3</sup>Building on definitions from our previous study (Strasser et al., 2020, p. 6), we define *member-networks* as national or transnational networks that mostly support local level participants in social innovation initiatives and target policy actors relevant to advancing their specific change ambitions, focused on promoting particular social innovation models (e.g. ecovillages). *Meta-networks* are networks of networks that strengthen exchange, alignment and collaboration across member-networks and their respective models and change strategies. Thereby, they aim to advance transformation at the level of various social innovation fields (e.g. community-led sustainability action).

<sup>4</sup>Participant observations involved joining virtual, in-person and blended events (conferences, general assemblies, webinars) and internal team meetings. We analysed the

(points 3, 5 and 6 in Figure 2). In this step, the data were organised using the originally defined network leadership roles and practices (see Appendix B) as deductive codes, while adding emergent codes where the data suggested refining or adding roles and practices<sup>5</sup> (Saldana, 2015). We then reviewed all the data thus collected and rephrased or newly articulated the roles and practices in ways that best reflected the data we gathered.<sup>6</sup> We also identified network leadership challenges through an emergent coding approach, whereby the observed challenges were clustered into thematic groups. Additionally, we noted how we found roles to be inter-related and how they could be seen as contributing to transformative capacity development (see Supplementary Table S1).

Second, we asked practitioners (see Appendix C) to rate the perceived recognisability and importance of the roles, practices and challenges of network leadership from the first step (points 6–8 in Figure 2). We asked respondents to rate<sup>7</sup> the practices

following kinds of documents: good practice guides, information on websites, brochures, videos, webinar recordings, reports and blogs.

<sup>5</sup>This specifically involved making notes about (a) instances where it was unclear how to assign data to the original roles due to overlaps among them, (b) possible ways to define and differentiate the roles more clearly, (c) possible additional roles and practices where the data did not fit existing codes.

<sup>6</sup>In doing so, we sought to arrive at a categorisation of roles and practices that is (a) generic enough to be applicable to different TSI networks, (b) nuanced enough to differentiate among specific roles and practices, (c) concrete enough to make clear what exactly each role and practice means.

<sup>7</sup>Nine interviews were conducted, out of which one did not fill in the ratings. Three interviewees were selected based on their simultaneous involvement in two of the cases, to understand their reasoning for differences between their ratings. In total, this



**Table 1.** Case overview

	Meta-networks	Member-networks
Cluster 1: community-led initiatives	<b>ECOLISE</b> ( <a href="http://www.ecolise.eu">www.ecolise.eu</a> ), the European network for community-led initiatives on climate change and sustainability, connects networks and organisations supporting community-led sustainability initiatives, for cross-movement collaboration, joint policy influence and knowledge development. ECOLISE members include a variety of organisations from the ecovillage, permaculture and transition movements, among others.	<b>Global Ecovillage Network Europe (GEN-Europe)</b> ( <a href="http://www.gen-europe.org">www.gen-europe.org</a> ) supports the spread of ecovillages and related lifestyles, practices and development approaches based on community-empowerment and sustainable living. <b>Transition Network (TN)</b> ( <a href="http://www.transitionnetwork.org">www.transitionnetwork.org</a> ) supports citizen groups in towns and cities who are 'reclaiming the economy, sparking entrepreneurship, reimagining work, reskilling themselves and weaving webs of connection and support'.
Cluster 2: student-led initiatives	<b>Students Organizing for Sustainability International (SOS)</b> ( <a href="http://www.sos.earth">www.sos.earth</a> ) connects national and international networks and organisations supporting student-led initiatives advancing sustainability in higher education. SOS members include the Green Office Movement, oikos International, netzwerk n, national student unions in the UK, Ireland, Denmark, among others.	<b>Green Office (GO) Movement</b> ( <a href="http://www.greenofficemovement.org">www.greenofficemovement.org</a> ) promotes the Green Office (GO) Model: a student-led and staff-supported sustainability platform that informs, connects and supports students and staff to act on sustainability.

and challenges, using a 5-point Likert scale, in response to statements about the perceived *recognisability* and *importance* of the practices and challenges.<sup>8</sup> This was used as preparation for structured interviews (Denscombe, 2003), where we asked interviewees to explain their ratings, mention additional examples for the practices and challenges, suggest refinements and comment on the perceived usefulness of the framework.

Third, we sent the revised roles and practices to interviewees via email, including an explanation of the revisions resulting from the interviews (adding *R11. Resource provider* as an extra role), as well as the quotes used in the results section, and asked for a final confirmation and suggestions for any further changes (points 9–10 in Figure 2). The interviewees agreed with the revisions and use of quotes, and we integrated one interviewee's refinement suggestion of the practices constituting the newly added role (P11.1. and P11.2.).

We mainly analysed the total average and range values across cases, to assess which roles and challenges were generally seen as most recognisable and important, and to what degree respondents had similar or divergent opinions. We also looked for differences between ratings from respondents involved in the same cases, to see if they agreed, and differences between cases, to see if some roles were more relevant in some cases than others.

We added new roles and practices to the original framework when the observed or suggested practices did not fit the original categories. We refined original roles when the observed practices and interviews with practitioners suggested ways to make them more precise and recognisable.

We addressed ethical issues by asking for consent about recording data during participant observations and interviews, ensuring anonymity of case respondents and confidentiality of possibly sensitive data.

## 4. Results

This section presents the revised network leadership roles and practices and explains how they were found to contribute to

resulted in eleven ratings for the network leadership practices and seven ratings for the challenges (some respondents did not have time to rate these).

<sup>8</sup>*Recognisability* = 'I recognise this role/challenge as congruent with practices performed/challenges encountered in my network'; *Importance* = 'This practice/challenge plays an important role in contributing to/hindering capacity development in the context of my network'.

transformative capacity development. We also describe the challenges for network leadership and the perceived practical usefulness of the framework.

### 4.1 Network leadership roles and practices

The revised roles and practices are presented in Appendix D, including a summary of the ratings from interviews, as well as an explanation of how we modified the original framework. Individual ratings of practices per interviewee are included in Supplementary Table S2. A more detailed presentation of our findings from participant observations and document analyses is provided in Supplementary Table S1, which includes the relations among roles, detailed practice descriptions, case examples and contributions of each practice to transformative capacity development across the three dimensions of depth, width and length. Below, we only mention a few examples of the most important practices.

The practices that were rated as most recognisable and important are summarised for each role below.<sup>9</sup>

- *R1. Platform host* designs and curates virtual communication platforms, which includes selecting appropriate platform software, creating sub-groups for relevant topics, and encouraging, responding to and monitoring activity on the platform. As effectively engaging more than a small percentage of their target audience on these platforms was often seen as a challenge, active curation to strengthen participation and self-organisation is very important: 'you can't just set up a platform and expect people to use it. You need people to make it alive' (Interviewee 7).
- *R2. Illuminator* promotes inspiring projects, campaigns, initiatives and stories that highlight achievements and strengths, offer opportunities for engagement, or exemplify processes of initiating SIs. Channels for doing so include events, reports, books, blogs, art, festivals, social media, films, presentations, news articles and wikis.
- *R3. Community weaver* brings people together who are already aware and engaged in practicing SIs to connect around similar

<sup>9</sup>Note that particular individuals or organisations can perform multiple roles simultaneously or at different times, as part of their formal functions (as staff, council members, etc.) or through informally engaging in a network. Similarly, any role can be performed by multiple individuals or organisations.

interests and practices and to learn with and from each other, across geographical and organisational boundaries. Formats include thematic working groups, communities of practice and online communication platforms.

- *R4. Partnership broker* brings together, helps to build trust and mutual understanding, and coordinates effective collaboration among individuals and organisations who want to go beyond shared learning to acting collaboratively on projects, campaigns, events, etc. This role further coordinates knowledge transfer, coherent branding and joint activities across national, regional and (trans)national network organisations.
- *R5. Strategic organiser* facilitates collective sense-making, decision-making and planning processes among individuals and organisations supporting networks, to concretise long-term ambitions of a network into strategic goals, theories of change, governance structures and action plans, while adapting to emergent societal developments, responding to internal tensions and mediating conflicts.
- *R6. Event organiser* designs, prepares, facilitates and harvests outcomes from conferences, summits, festivals, networking events, etc. This enables knowledge exchange, collective sense-making, community-building, collective strategising, producing knowledge resources, etc. Careful attention is often given to deciding on event themes, enabling diverse and accessible participation, inviting speakers and workshop facilitators, and facilitating effective communication.
- *R7. Knowledge weaver* has a central role in producing, collecting and curating the knowledge basis that enables a network to develop transformative capacity. Knowledge resources include practice guides, courses, curricula, competence frameworks, design tools, evaluation criteria, reports and academic articles. Here a key challenge is often to create the conditions for those resources to actually be used by target audiences, for instance by target group-specific dissemination and promotion during events, trainings and policy events.
- *R8. Evaluator* supports the integrity and accountability of networks by facilitating collective sense-making about progress towards strategic goals, required strategies, implicit assumptions and unconscious biases, raising concerns, articulating constructive criticism and supporting conflict resolution.
- *R9. Enabler* builds the capacity for effectively spreading, implementing and advocating for SI. This can take the form of designing and delivering (online) courses, trainings (of trainers), learning programmes, webinars, retreats, curricula and certifications, as well as consulting and mentoring.
- *R10. Advocate* engages a large and diverse constituency of actors to align on shared demands for legal, policy and discursive changes and resourcing streams. Articulating evidence-based argumentation for demands (policy papers, declarations) that have backing from a large constituency of supporters helps to build formal recognition of these demands and to achieve desired policy responses.
- *R11. Resource provider* generates and enables access to financial resources through government, private or foundation-funded projects, and income-generating activities like paid workshops, consulting and membership fees. Non-financial resources include access to IT infrastructure, contacts and knowledge databases.

We can observe some general findings resulting from the ratings of network leadership practices. Except for *P5.1. Analysing societal systems*, all practices score higher than 3 (neutral) for

recognisability, while three-quarters (18/24) were rated 3.8 on average or higher for recognisability and/or importance. This can be seen as a sufficient overall validation of the results of the first iteration of refinement. It is important to note that three interviewees mentioned that they found all the roles and practices generally recognisable and important (based on their engagement or familiarity with other networks), even if they gave lower ratings based on their assessment of how relevant those roles are to the organisations we studied as cases. While the ratings significantly varied overall, per organisation and between respondents of the same organisation, one-third (8/24) of the practices were consistently seen as important or very important (average ratings of 4–5, with range values of 2 or less – indicating a high degree of agreement).

A key finding is that some roles are more important for specific kinds of networks, depending on the purpose, type and level of maturity of a network: ‘A network cannot do everything’ (Interviewee 1), so it’s important to focus more on a few essential roles and collaborate with others who can better fill other roles (Interviewee 3). For example, GEN Europe initiated a survey (R8.) about legal obstacles ecovillages face (for instance, related to community land ownership, or home schooling), which ECOLISE then aims to use for its advocacy efforts (R10.) to shape enabling legal frameworks: a role that GEN Europe has less capacity for. Roles and practices that seemed generally more appropriate for meta-networks with a highly diverse constituency include bridging across communities of practice from diverse member-networks (P3.1.); convening and aligning diverse partnerships (R4.) to collaborate on high-level policy advocacy (R10.); organising and synthesising knowledge resources (P7.3) that member organisations and academics produce. Some roles may be less relevant to be performed by actors in a network but can be more suitable for external actors. For instance, Interviewee 3 noted that *P5.1. Analysing societal systems* ‘is important that it is happening, but not that we [GEN Europe] do it. We need the analysis of other organisations, scientists, etc., but we are not in the situation that we can analyse a capitalist world’. In some of the events by ECOLISE and GEN Europe, particular authors or experts were invited to offer their analysis on how to understand the economic or food system, or how to navigate EU bureaucracies. Considering the varying appropriateness of roles for diverse types of networks, Interviewee 5 suggested that it ‘needs to be clear in the framing’ of the 3D framework that not all roles are important in every case: ‘that it doesn’t mean a network isn’t doing enough if it doesn’t fulfil all these roles’.

Our results help to better understand how the network leadership roles are related to each other in synergistic ways (see Supplementary Table S1 for detailed descriptions of these relations, per role). The most inter-related roles (5–6 relations to other roles) include *R2. Illuminator*, *R6. Event organiser*, *R7. Knowledge weaver* and *R10. Advocate*. The development of ECOLISE’s ‘knowledge commons’<sup>10</sup> illustrates these interactions: *R7. Knowledge weaver* harvests and stores good practice examples on a wiki-based knowledge repository developed through a participatory design process to create synergies among many purposes. That is, learnings from events (R6.) and research projects (R7.) are collected and stored in a central place, so they can be used for showcasing good practices via social media (R2.), writing reports to build recognition among policy makers (R10.), to

<sup>10</sup>[http://wiki.ecolise.eu/index.php?title=EcoliseWiki:A\\_knowledge\\_commons\\_for\\_community-led\\_action\\_on\\_sustainability\\_and\\_climate\\_change](http://wiki.ecolise.eu/index.php?title=EcoliseWiki:A_knowledge_commons_for_community-led_action_on_sustainability_and_climate_change)

inform delivery of courses and trainings (R9.), as well as strengthen the learning in and across communities of practice (R3.). Creating such interactions across roles is often a very intentional process, as illustrated by a guiding principle used in ECOLISE (derived from permaculture design), to ‘stack functions’: this means that activities should be designed to diversify purposes, maximise synergies of value generation and make efficient use of resources.

Two roles were found to be entirely crosscutting in that they are interwoven with or set the context for all the other roles: R5. *Strategic organiser* influences the prioritisation of and the relationships among the other roles. R8. *Evaluator* is usually performed by all roles to some degree, insofar as they evaluate, measure and critically reflect on their activities and achievements, while outcomes of those evaluations also shape the priorities and strategies of the other roles. It is no surprise that strategising was observed to be a highly common activity among all cases, manifesting in various forms, rhythms and degrees of depth and participation, including weekly team meetings, quarterly board or council meetings, and annual summits and general assemblies, to mention but a few. By comparison, formal evaluation (P8.1.) was found to be much less common and deemed less important (considering resource limitations), particularly in the sense of monitoring and impact assessment. We found that more attention and resources were given to critically reflecting on (un)successful strategies and unconscious biases (P8.2). Still, we often observed particular individuals having a strongly developed interest and role in making regular, learning-oriented evaluation an integrated part of all activities, as well as engaging in honest self-critical inquiries into unconscious biases or ways of perpetuating dominant mindsets and habits (such as racism, neo-colonialism, patriarchy or top-down control).

#### 4.2 Transformative capacity contributions

Based on the data from participant observations and document analyses, we identified how network leadership practices can contribute to the development of transformative capacities across three dimensions. This makes a more explicit connection between network leadership and capacity development in the 3D framework. These transformative capacity contributions should be seen as *possible* outcomes of network leadership practices. This means that although some have been observed as *actual* outcomes, many were found to be *intended* outcomes from the perspective of the actors in our cases who are still in the process of working to realise these. In Supplementary Table S1, we describe the transformative capacity contributions for each network leadership practice. Below we summarise more broadly how network leadership practices can contribute to the development of widening, deepening and lengthening capacities:

- *Widening*: creating visibility and awareness of SIs through conferences and social media; inspiring and enabling people to get involved through events, courses and trainings; ensuring accessibility and inclusivity for diverse population groups to participate in events, platforms and projects, and co-shape network developments; creating knowledge and support offers about good practices to adapt innovations to diverse contexts and populations; amplifying campaigns and programmes through partnerships; building coherence through monitoring and supporting alignment of local initiatives and partner organisations with core principles.

- *Deepening*: identifying and supporting the implementation of SI approaches through events, research projects, courses and trainings; convening partnerships to advocate for discursive changes, policies and funding streams at a systemic level; building recognition and institutional support by aligning strategies with established policy priorities (e.g. the SDGs, the European Green Deal); raising awareness and supporting critical reflection about unconscious biases, inner dimensions of transformation and risks of co-optation when collaborating with established institutions; co-creating ways of embodying transformative values (such as equity and justice) in the governance and culture of SI networks.
- *Lengthening*: co-shaping strategic goals and co-evolving governance of (organisations supporting) networks in response to emerging challenges and opportunities; generating and distributing funding and other resources that enable network growth and continuity; developing trust and a sense of community among innovators across places and organisations through events and virtual platforms; strengthening continuity of knowledge resources by integrating them in ongoing support activities and virtual platforms; monitoring and facilitating sense-making about responses to societal developments (such as pandemics and the proliferation of conspiracy theories).

#### 4.3 Network leadership challenges

Next to identifying roles and practices, we investigated challenges for network leadership to effectively contribute to capacity development. Challenges that were rated as most recognisable and important across cases (on average, 3.8 and above) are: ‘staying rooted in the local while operating at translocal scales’, ‘reaching and meaningfully engaging network members’, ‘collaborating across diverse networks for coherent action’ and ‘resourcing network operations’. More detailed descriptions and a summary of the ratings of challenges are included in Appendix E. Individual ratings of challenges per interviewee are included in Supplementary Table S2.

Three interviewees saw three additional challenges as very important. The first is the issue of accountability in networks; that is, the accountability towards not only funders, but also network members, collaborators and wider society. In contrast to the corporate sector, having clear procedures for ‘when things go wrong’ was something that Interviewee 2 found generally lacking in civil-society organisations and specifically pertinent to the internal conflicts in ECOLISE. Interviewee 9 further mentioned an accountability issue they perceived as a recurring tendency in member-driven networks to ‘become self-serving’: that is, widening can be constricted when accountability of networks is only towards the wishes of its members, rather than also to what’s needed to address the purpose or cause of the network, even if this is not explicitly wished for by members. They expressed this as a tension between ‘leading the network and being accountable to the network’.

The second challenge is connecting more with the struggles of oppressed social groups. Interviewee 2 explained: ‘without being really deeply connected to the struggles, there’s a surface level analysis [...] these kind of scalable models end up being very problematic if they’re not rooted in struggle’. While many good intentions and efforts have been observed in many of the cases to address equity, diversity and inclusion in their network activities and internal organisational cultures, doing so in a meaningful manner can be quite challenging, as the following quotes

indicate: ‘How do you engage with people in meaningful ways where they’re empowered, without it being tokenistic?’ (Interviewee 7). Similarly, Interviewee 9 explained: ‘You have to build the capacity of the whole team to understand the language and the struggles of other social justice movements’.

The third challenge consists of internal tensions around power imbalances. At the time of this study, ECOLISE was in the process of dealing with intense and highly complex conflicts related to (among others) lack of transparency, diversity and inclusivity in decision-making. For confidentiality reasons, it was not possible to study these tensions in more detail. Interviewee 2 mentioned that power dynamics need to be more explicit in an analysis of network leadership, as ‘it gets into the things that are tacit, under the surface. A lot of things in these networks is under the surface’.

#### 4.4 Perceived usefulness

In addition to testing for recognisability and importance, we also asked practitioners about how they think the framework of network leadership roles and practices could be practically useful. The responses are shown in Appendix F, organised by seven categories, including illustrative quotes for each category. We only list these seven categories here: (1) planning projects and initiating networks, (2) collectively evaluating current performance and setting strategic goals, (3) strategically prioritising allocation of resources and capacities, (4) clarifying which roles are currently performed, which are needed and who should perform which roles, (5) building a shared understanding of the core purpose and goals of an organisation, (6) making agreements and differences in opinions explicit, (7) building understanding of network leadership as a distributed practice.

Many interviewees emphasised that they would find it most beneficial to collectively reflect on the roles, the differences in their ratings and their underlying reasons for why some roles should be prioritised over others, rather than only rating the roles individually. Overall, the framework seemed most useful for narrowing the focus of activities and allocation of resources on the roles that matter most, at a particular time or for a particular organisation, team or individual, given their purpose and strategic goals. Therefore, the framework may also serve to address two challenges that were rated as most important: ‘resourcing network operations’ and ‘collaborating across diverse networks for coherent action’: that is, by allocating limited time and resources to what matters most and differentiating roles among various partner organisations to collaborate effectively.

## 5. Discussion

Below we discuss the significance of our findings in relation to the relevant literature, practical implications, methodological limitations and suggestions for future research.

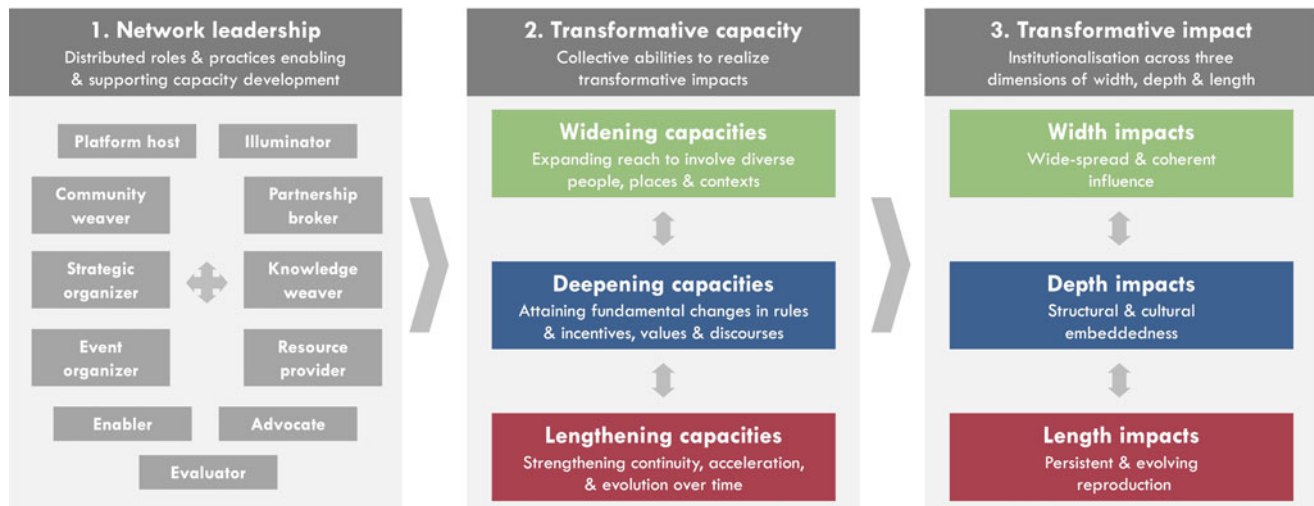
By testing and refining an earlier version of the 3D framework we arrived at a total of eleven inter-related network leadership roles (Figure 3, see Appendix A for the complete and revised 3D framework). While these roles largely align with the findings of other studies on agency in SI networks (Dorland, 2018; Risien, 2019), our study contributes to the literature by zooming in further on the concrete practices constituting these roles, the relationships among those roles, the challenges involved in performing them and their contributions to transformative capacity development. We intentionally refined and tested the roles

to enhance their recognisability and usefulness in practice, whereas existing typologies remained more abstract and were not yet tested in practice. We differentiated a total of 26 practices through which these roles can be performed and identified which of these are seen as most important by practitioners in five TSI networks. We have also developed a clearer understanding of how the roles are related to each other, and which roles may be particularly relevant to meta-networks. However, more research is needed to understand how these roles shift and interact over time and if some roles are particularly relevant to specific types of networks, considering their purpose, constituency and stage of their development (Westley *et al.*, 2013). As the roles have been found to be strongly inter-related, it would also be fruitful to better understand how they can be strategically connected in a cohesive manner and which constellation of roles can be effective in pursuit of particular transformative goals, as the transformative power of network leadership roles ‘lies in how they are interconnected’ (Risien, 2019, p. 78). It could further be useful to study in more detail how specific practices constituting the cross-cutting roles (R5. Strategic organiser, R8. Evaluator) can strengthen transformative capacity development – for example, how developmental evaluation (Patton, 2011) could be applied in TSI networks to help make the work of all other roles more effective or how network strategies can be developed that create synergistic effects between roles performed by a variety of partner organisations in a network.

We further described challenges for network leadership, such as effectively engaging network members, dealing with tensions around power and accountability, including marginalised communities and generating resources. This finding confirms and offers some nuance to the fact that ‘many of the features that provide learning networks with transformative potential also make them difficult to organise and maintain’ (Goldstein *et al.*, 2017a, 2017b, p. 538), as they often entail voluntary involvement of members, operate at many sites and scales with diverse context conditions and working cultures, and rely on multiple and often lightly resourced support organisations. Our findings further echo the growing recognition that issues of equity and struggles for social justice need to be more central to collaborative innovation efforts (Kania & Kramer, 2015; Temper, Walter, Rodriguez, Kothari, & Turhan, 2018; Weaver, 2016), without which they will be limited in their efforts to create deep, wide-spread and lasting change. As we studied challenges in less detail than the roles and practices, future research can offer more in-depth and cross-case analyses of the relative importance of network leadership challenges, their pertinence to specific stages in network development, practical strategies to address these challenges (Imperial, Johnston, Pruett-Jones, Leong, & Thomsen, 2016) and whether and how they are unique to network leadership.

Practitioner responses confirmed the view that network leadership should be understood as a distributed practice, rather than as the characteristic of individual ‘leaders’, where roles can be performed by a variety of individuals and organisations, simultaneously or at different times and different levels. Yet, this distributed nature can also make it challenging to align and coordinate a variety of roles performed by multiple actors with different opinions and priorities. We have also observed a case where power remained rather centralised, creating internal conflicts and limiting the wider and deeper influence of the network. Future research could further investigate the disempowering aspects of network leadership (Avelino *et al.*, 2019, 2020) and how they may limit transformative capacity development. For





**Figure 3.** 3D framework overview, including the revised network leadership roles.

instance, when actors performing network leadership roles seek to maintain centralised control, have conflicting visions for a network's development or fail to engage diverse voices. This could help to strengthen network leadership practice by pointing at common pitfalls and possible ways to avoid them.

One such pitfall may include overlooking the importance of care work in the context of network leadership. Care work is known to often be invisible labour that lacks adequate recognition and resourcing (Daniels, 1987; Hatton, 2017; Herd & Meyer, 2002), which may be a reason why we also have not found sufficient evidence in our cases to include it as an additional role. Further research on this topic may nonetheless warrant the addition of care work as an additional network leadership role, which could make this role and its contribution to transformative capacity development more visible and valued.

Considering the 'embedded, fluid and provisional units of analysis' (Pel et al., 2017, p. 115) in TSI theory, we see it as an open question whether 'network leadership' is an appropriate term. While interviewees generally found the 'network leadership' concept recognisable and agreeable, some practitioners were critical of hierarchical and authoritative connotations associated with 'leadership'. Future research could address how the use of 'network leadership' by academics and practitioners (Meehan, 2017; Ogden, 2016; Schreiber & Carley, 2008; Wei-Skillern, Ehrlichman, & Sawyer, 2015) compares to similar concepts, including 'network weavers' (Goldstein et al., 2017a, 2017b; Holley, 2012), 'network orchestrators' (Busch, 2019), 'network builders' (Plastrik & Taylor, 2006), 'systems conveners' (Wenger-Trayner & Wenger-Trayner, 2021), 'systems catalysts' (Sall & Walker, 2021), 'institutional entrepreneurs' (Battilana et al., 2009; Garud et al., 2007; Westley et al., 2013) and 'intermediaries' (Barraket, 2020; Kivimaa, Boon, Hyysalo, & Klerkx, 2019a; Kivimaa et al., 2019b). A detailed comparison of these related concepts was beyond the scope of our study. We expect that the 3D framework may help to build coherence and clarify nuances among this variety of terms, by mapping their relationships to the network leadership roles and practices we identified, as well as differentiating their contributions to capacity development across the three dimensions of depth, width and length.

While our study focused mostly on roles and practices, we also indicate how specific network leadership practices can contribute

to the development of transformative capacities. Much of the scholarship on innovation networks has focused on how networks enable 'diffusion' (Loorbach et al., 2020; Rogers, 2003; Shawki, 2013), which usually implies that innovations travel geographically (widening). However, less is known about how specific practices by actors in networks can support innovation to 'cross scales' (Moore & Westley, 2011, p. 5) also in terms of structural and cultural dimensions (deepening), as well as temporal dimensions (lengthening). In our empirical application of the 3D framework, we explored how specific network leadership practices can contribute to transformative change across these three dimensions. This can help academics as well as practitioners to gain a more comprehensive, differentiated and multi-dimensional view of transformative capacity development. In a recent study (Strasser et al., 2020) we describe in more detail the transformative capacities and impacts that we actually observed in our cases. A more systematic analysis is required to ascertain how and to what extent these can be directly attributed to the practices of network leadership, considering the complex dynamics of distributed agency whereby a variety of actors and causal factors co-produce outcomes (Pel et al., 2017). While the content of the capacity contributions was partially refined with the feedback from interviewees, they should be seen as more hypothetical and in need of further empirical validation. We expect that they carry sufficient validity to be useful as inspiration for practitioners to discuss and clarify the purpose and goals of the roles they perform in stewarding a network. By choosing to describe *possible* capacity contributions, we intend to articulate the 3D framework in a way that is applicable to a variety of TSI networks as a reference framework to orient, prioritise and evaluate their activities. We expect that several factors will codetermine whether network leadership practices actually result in the stated capacity outcomes, such as the personal qualities and competencies of network leadership practitioners, access to resources, constraining and enabling contextual factors (political, economic, demographic) and the characteristics of a given network (density of relational ties, levels of engagement of members, etc.).

The combination of roles, practices and capacity contributions can serve to guide monitoring and evaluation of SI, for which more learning-oriented and utilisation-focused evaluation approaches are needed (Milley, Szijarto, Svensson, & Cousins,

2018; Weaver & Kemp, 2017). By offering a comprehensive list of common network leadership roles and practices, the 3D framework may be particularly suitable for principle-focused developmental evaluation (Patton, 2017). This bears parallels to how practitioners in our cases studied common patterns of good practice for implementing the SIs they promote and developed guiding principles for local initiatives, which they then use for educational activities, evaluation and strategy development. We propose that the 3D framework can have an analogous function, while focused on guiding practice at the level of networks that support and enable innovation more than the local level of implementing SI.

The feedback from practitioners suggested a range of practical applications of the 3D framework. These include strengthening the understanding of network leadership as a distributed practice, making strategic choices about which roles to prioritise, evaluating strengths and weaknesses, setting strategic goals and improving alignment among network leadership practitioners with a variety of roles. This can help them allocate scarce resources in ways that are most effective in the pursuit of their ambitions. Although we did not receive explicit feedback from interviewees about the relations among roles and the possible capacity contributions, we expect these to be valuable in practice too. The relations may serve to make more intentional and strategic connections between roles performed by different individuals or organisations, to align and collaborate on shared goals. The possible capacity contributions can help to clarify strategic goals per role, suggest reasons for giving attention to certain roles, and to be more intentional about how their interventions (courses, platforms, partner convenings, etc.) aim at deepening, widening and/or lengthening. Future research could further test the practical usefulness by actually applying the 3D framework for facilitating strategy development and evaluation, or inviting practitioners to use it independently for these purposes. Such research could explore both the processes through which the 3D framework can be meaningfully applied and the practical results from doing so.

Given the scope and methodological choices, our study has a number of limitations. Although the initial version of the 3D framework drew upon a large number of cases that informed TSI theory development, only a relatively small number of cases and interviewees informed the refinements and additions to the framework in this study. Considering the strong inter-relatedness among network leadership roles, it was also not always clear how to label or differentiate the roles and practices, so some subjectivity in those choices was inevitable. Further validation of the 3D framework with a larger and more diverse set of cases and interviewees may strengthen its empirical evidence basis and wider applicability.

By conducting interviews, we initially sought to evaluate the generic recognisability of the network leadership practices and challenges, which we previously identified and further refined through participant observations and document analyses. Upon conducting these interviews however, we found that it was more meaningful for practitioners to evaluate these practices and challenges from the perspective of how pertinent they are to their specific organisation (which is part of a larger network), rather than appraising them in a general sense or focusing on a large and multi-layered network as a whole. We also found that a degree of subjectivity in the ratings of practitioners was not only inevitable, but also empirically insightful. That is, the reflections of interviewees about the thought process that guided how they rated the practices were valuable findings in themselves, as they elicited assumptions and opinions that can inform strategic sense-

making. For practically applying the 3D framework in the future, it can be valuable to invite multiple individuals who shape networks to collectively discuss the underlying reasons why they recognise or perceive specific roles and practices as more or less important. Such collective deliberation can help to increase shared understanding of and alignment on strategic priorities and related decisions about resource allocation. Hence, the rating exercise was valuable for better understanding how the 3D framework could be meaningfully applied to support practitioners, and not only to validate its conceptual content.

## 6. Conclusion

In this study we set out to create a better understanding of agency in SI networks by clarifying which roles and practices can be performed by individuals and organisations who support the development of transformative capacity. Our study enhances the practice relevance of TSI theory through articulating a comprehensive, systematic and agency-oriented overview of roles and practices of network leadership.

We expect that the 3D framework will be relevant to a wide variety of other networks and social movements with transformative ambitions and prefigurative approaches that seek to model alternatives to dominant institutions (Monticelli, 2018; Törnberg, 2021; Yates, 2021). For example, these might include networks promoting post-growth, circular or wellbeing economies (Felber, 2019; Longhurst *et al.*, 2016; Raworth, 2017), regenerative agriculture (Rossi, 2017), basic income (Backhaus & Pel, 2017; Bauler, Pel, & Backhaus, 2017) or life-serving knowledge systems (Fazey *et al.*, 2020), to name but a few. While many of these networks operate at global scales, further research could test the applicability and usefulness of the 3D framework in networks operating specifically in non-Western contexts. Slum/Shack Dwellers International may offer an insightful case (Patel, Burra, & D'Cruz, 2001), challenging international development institutions by empowering the urban poor in the Global South.

The 3D framework offers a systematic and comprehensive overview of network leadership roles and practices and the ways in which they can contribute to transformative capacities and impacts. It can help to make visible, tangible and fundable the often hidden and under-resourced practice of network leadership. It offers a simple but not simplistic, generic, yet also context-sensitive way to analyse and guide efforts to develop transformative capacity. This makes it a useful lens for strategy and evaluation that is relevant for practitioners, evaluators, action researchers, policy makers and funders seeking to strengthen the transformative efforts of organisations, networks and social movements creating urgently needed pathways towards regenerative, just and thriving futures for humanity.

**Supplementary material.** The supplementary material for this article can be found at <https://doi.org/10.1017/sus.2022.6>

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