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The sustainability turn in smart specialization: well-Being promotion as a dimension of place-based regional transformation

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This article examines how the sustainability turn has reshaped smart specialization (S3) and how well-being promotion can be integrated into the new sustainability-oriented S3. Drawing on debates on place-based transformation, well-being, and regional innovation policy, the study analyzes 19 expert interviews conducted in Finland among municipal, regional, and national actors involved in well-being promotion. Methodologically, the article applies theory-oriented qualitative content analysis and uses Seghezze's five-dimensional sustainability frame as an analytical framework. The findings show that the sustainability turn has broadened S3 from a primarily competitiveness-oriented policy toward a more place-based, long-term, and socially inclusive approach. Well-being promotion can be connected to this shift through territorially embedded coordination, stronger strategic continuity, and broader participation by citizens, NGOs, and vulnerable groups. The article contributes to research on the new S3 by showing that well-being is not an external social add-on, but a constitutive dimension of sustainability-oriented regional transformation in practice.

Keywords: place-based transformation; regional transformation; smart specialization; sustainability turn; well-being promotion

Introduction

Smart specialization emerged in European Union (EU) policy in the early 2010s as part of the Europe 2020 strategy, which aimed to promote smart, sustainable, and inclusive growth. Its core premise was that regions should identify and develop areas of research and innovation where they had comparative advantages and the capacity to generate new, high-value-added activities, rather than imitate the development paths of other regions (Foray 2015; Foray et al. 2012). In its original formulation, S3 was a place-based innovation policy that combined strategic priority setting with bottom-up entrepreneurial discovery process (EDP) and sought to support structural change through innovation and diversified specialization rather than broad sectoral support alone (Foray 2015; Foray et al. 2012; McCann and Soete 2020). Although sustainability was already

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present in the early S3 framework, implementation initially tended to emphasize competitiveness, innovation-led growth, and export-oriented regional restructuring (Foray et al. 2012; Kroll 2015; 2018; Poikela, Mäenpää, and Laakkonen 2023).

Over time, however, the policy context and practical orientation of smart specialization have broadened from product innovations into more systemic innovations (Foray 2025). In the 2021–2027 programming period, S3 remains a core instrument of EU regional innovation policy, but it is increasingly connected to green and digital transitions, interregional cooperation, and sustainable and inclusive development (Bianchi et al. 2024; Pontikakis et al. 2022). This reflects a wider shift from competitiveness-oriented regional innovation policy toward place-based transformation, societal challenges, and systemic change (Bianchi et al. 2024; Isaksen, Tripl, and Mayer 2022; Kruse 2023). As a result, sustainability in S3 is now understood more holistically, encompassing not only ecological modernization and resource efficiency but also social sustainability, participation, justice, and public value (Bianchi et al. 2024; Poikela, Mäenpää, and Laakkonen 2023; Pontikakis et al. 2022; Provenzano and Seminara 2023).

This broadened agenda has also reshaped implementation. Although earlier S3 implementation approached the role of firms and market knowledge (Foray 2015; Mäenpää 2020), S3 processes have often relied strongly on public actors, universities, and other organizations, whereas social and citizen-centered dimensions have remained less developed (Kangas and Aarrevaara 2020; Kangas and Rynänen 2022; Kroll 2015; Rakhmatullin and Hegyi 2021; Roman et al. 2020). Recent policy work has therefore promoted more open forms of discovery and governance involving civil society, users together with stronger multilevel governance and a more explicit role for municipalities, cities, and other subregional actors in translating broad policy goals into territorially meaningful practices (Bianchi et al. 2024; Estensoro and Larrea 2016; Grillitsch, Stihl, and Hermelin 2026; Mäenpää and Lundström 2019; Pontikakis et al. 2022; Pugh 2018).

A central implication of this sustainability turn is the growing importance of well-being in smart specialization (Poikela, Mäenpää, and Laakkonen 2023). Also, more broadly regional development is increasingly assessed not only through innovation outputs or economic growth, but through the living conditions created for people and communities (Bianchi et al. 2024; Grillitsch, Cobos-Cabral, and Horvat 2025; Pontikakis et al. 2022). Rather than being treated as a secondary outcome of economic success, well-being is increasingly understood as a substantive objective of place-based and sustainability-oriented development (Fudge, Ogier, and Alexander 2021; Pugalís and Keegan 2017). From this perspective, well-being is multidimensional and shaped by interconnected conditions such as health, education, environmental quality, safety, participation, and the broader circumstances of everyday life (Fudge, Ogier, and Alexander 2021; Llana-Nozal, Martín, and Murin 2019).

This broadened understanding of well-being is particularly relevant for the new S3. If smart specialization is increasingly expected to address major societal challenges and contribute to transformative regional development, then its relevance cannot be judged only through the traditional metrics of competitiveness and innovation intensity. It must also be considered in relation to how sustainability-oriented regional change is experienced, distributed, and institutionalized in specific places over time (Grillitsch, Cobos-Cabral, and Horvat 2025; Lundvall 2024; Schot and Steinmueller 2018). In this sense, well-being promotion offers a particularly useful entry point for examining what the sustainability turn in S3 means in practice. It draws attention to the institutional, territorial, and human dimensions of development that remain difficult to capture through conventional innovation policy frameworks alone, while also raising questions about governance, participation, coordination, and long-term societal value.

Despite growing attention to sustainability and well-being, existing S3 frameworks remain conceptually fragmented and often lack tools for analyzing sustainability across spatial, temporal, and human dimensions. To address this gap, the present study applies Seghezze's (2009) five-dimensional framework of sustainability and utilizes it as a frame for thematic interviews (n=19). Rather than approaching sustainability solely through the familiar triad of economy, society, and environment, Seghezze reformulates it through the categories of Place, Permanence, and Persons. Place consists of three spatial dimensions, Permanence introduces an explicit temporal dimension, and Persons adds a human dimension concerned with identity, values, rights, and subjective well-being (Seghezze 2009). This framework is useful for the study because it allows us to examine sustainability not only as a policy goal, but as a territorially embedded, temporally extended, and socially differentiated process. In the context of smart specialization, this is important because the key analytical issue is not simply whether S3 refers more explicitly to sustainability, but how sustainability-oriented regional development is articulated through place-based practices, long-term coordination, and the differentiated well-being of people and groups (Isaksen, Trippl, and Mayer 2022; Seghezze 2009; Žak 2023).

Against this background, the article addresses the following research questions:

- How has the sustainability focus reshaped the implementation of S3?
- How can well-being promotion be integrated into sustainability-oriented S3?

The Finnish context provides an especially relevant empirical setting for this inquiry. In Finland, well-being promotion has a clear institutional basis. Municipalities and well-being services counties hold formal responsibility for promoting residents' well-being, and this work is expected to be strategic, collaborative, and connected to a broad range of public, private, and third-sector actors (Health and Social Care Act 612/2021). At the same time, earlier research has shown that well-being promotion in Finland has often been fragmented across administrative sectors, narrowly understood, and insufficiently integrated with broader sustainability and regional development agendas (Almlund and Holm 2016; Leinonen and Syväjärvi 2022). These tensions make Finland a useful case for examining how the broader ambitions of sustainability-oriented S3 might connect – or fail to connect – with concrete practices of place-based well-being promotion.

The article proceeds as follows. The next section examines the evolution of smart specialization from a predominantly competitiveness-oriented framework toward a more sustainability-oriented and challenge-driven policy approach. The following section discusses well-being as a dimension of sustainability in smart specialization and introduces Seghezze's framework as the article's analytical lens. The methodology section then describes the qualitative case design, data, and analytical strategy. After that, the empirical findings are presented through the dimensions of Place, Permanence, and Persons. The final sections synthesize the results, discuss their implications for the implementation of the new S3, and conclude by reflecting on the role of well-being in sustainability-oriented regional transformation.

New smart specialisation: from economic development towards sustainability

Since the early 2010s, the European Commission has required member states to prepare national or regional research and innovation strategies for smart specialization as a

condition for access to the European Regional Development Fund. In the 2021–2027 programming period, S3 remains a key pillar of regional innovation policy, but it is increasingly connected to broader transition agendas such as green and digital transformation, interregional cooperation, and sustainable development (Bianchi et al. 2024; Grillitsch, Coenen, and Morgan 2025; Neto, Serrano, and Santos 2018; Pontikakis et al. 2022). This shift reflects a need to balance top-down policy directionality, such as the European Green Deal and SDGs, with subsidiarity grounded in local and regional participation (cf. Grillitsch, Coenen, and Morgan 2025).

Although sustainability was present from the outset, early S3 implementation largely emphasized economic restructuring, competitiveness, and export-oriented growth (Foray et al. 2012; Kroll 2015; 2018). Strategies were developed through entrepreneurial discovery processes, which highlighted firms as key actors due to their market knowledge (Foray 2015; Mäenpää 2020). In practice, however, many regions struggled to engage companies consistently, and public organizations, universities, and NGOs often played more prominent roles (Kangas and Aarrevaara 2020; Kangas and Ryyänen 2022; Kroll 2015).

More recent scholarship conceptualizes S3 as a place-based innovation policy increasingly oriented toward structural change, societal challenges, and regional transformation (Bianchi et al. 2024; Isaksen, Trippl, and Mayer 2022; Kruse 2023). This is reflected in a shift from sector-specific priorities toward broader, challenge-oriented themes such as sustainability, digitalization, circularity, and resilience (Neto, Serrano, and Santos 2018; Pontikakis et al. 2022; Trippl, Fastenrath, and Isaksen 2023). As Foray (2025) suggests, innovation is increasingly understood as connecting natural, produced, and human capital, pointing toward more systemic and horizontal innovation processes that extend beyond individual industries (Poikela, Mäenpää, and Laakkonen 2023).

A central feature of this evolution is the transition from the entrepreneurial discovery process to a more open discovery process (ODP), which emphasizes broader participation by civil society, users, and other stakeholders (Pontikakis et al. 2022; Roman et al. 2020). This reflects a shift toward more inclusive, multilevel governance and comprehensive policy mixes, recognizing that complex societal challenges cannot be addressed through traditional triple-helix models alone (Bianchi et al. 2024; Grillitsch, Coenen, and Morgan 2025; Pontikakis et al. 2022). In this context, S3 can be seen as evolving from discovering opportunities toward purposive collective action, where regional actors actively shape transformation pathways (Grillitsch, Coenen, and Morgan 2025).

Despite these developments, S3 implementation remains institutionally challenging. It requires administrative capacity, clear coordination, stakeholder engagement, and effective monitoring and learning mechanisms (Foray, Eichler, and Keller 2021; Guzzo and Gianelle 2021; Kroll 2015). In practice, regions often struggle to translate broad priorities into concrete actions due to fragmented governance structures, limited firm engagement, and uneven capacities (Hassink and Gong 2019; Sotarauta 2018). These issues are further highlighted by recent evaluations noting that key processes such as EDP have not significantly evolved since their introduction (European Court of Auditors 2025).

From a multilevel governance perspective, S3 implementation is shaped by tensions between policy direction and regional self-organization (Grillitsch, Coenen, and Morgan 2025; Kangas and Ryyänen 2022). These dynamics are particularly visible at the level of municipalities and other subregional actors, whose growing importance reflects a broader shift toward place-based transformation (Bianchi et al. 2024; Estensoro and Larrea 2016; Pugh 2018). Municipalities play a crucial role in translating strategic priorities into locally meaningful practices, although their capacities vary significantly across regions (Grillitsch, Stihl, and Hermelin 2026).

This transformation also helps explain the increasing relevance of well-being in S3 debates. Earlier studies identified weak integration of social and citizen-centered dimensions (Kroll 2015; Rakhmatullin and Hegyi 2021; Roman et al. 2020), whereas more recent work links regional development explicitly to societal well-being and public value (Bianchi et al. 2024; Foray 2015; Grillitsch, Coenen, and Morgan 2025; Pontikakis et al. 2022). Rather than assuming that economic or technological change automatically improves well-being, recent research emphasizes the need to evaluate outcomes in terms of capabilities, life conditions, and everyday experiences (Grillitsch, Cobos-Cabral, and Horvat 2025; Nussbaum 2011). This perspective highlights the importance of inclusive innovation and governance models that connect development processes to concrete improvements in people's lives (George, McGahan, and Prabhu 2012; Kangas and Aarrevaara 2020; Kangas and Ryyänänen 2022; Poikela 2025).

Well-being as a dimension of sustainability in smart specialization

The growing emphasis on well-being in contemporary smart specialization reflects a broader shift in regional development thinking, where well-being is increasingly treated as a substantive objective rather than a secondary outcome of economic growth (Fudge, Ogier, and Alexander 2021; Pugalís and Keegan 2017). This shift is particularly evident in the new S3 framework, in which innovation is expected to address not only economic renewal but also environmental pressures, social inequalities, and territorially differentiated needs (Bianchi et al. 2024; Grillitsch, Cobos-Cabral, and Horvat 2025; Pontikakis et al. 2022). Accordingly, greater emphasis is placed on social sustainability, inclusion, justice, and public value alongside ecological transition and economic restructuring (Bianchi et al. 2024; Pontikakis et al. 2022; Provenzano and Seminara 2023). In this sense, S3 can be interpreted as evolving toward a broader, open and participatory logic, where success is assessed not only through growth but through long-term societal well-being (Grillitsch, Cobos-Cabral, and Horvat 2025; McCann and Soete 2020).

A well-being perspective deepens place-based smart specialization by focusing on how development is experienced in specific territorial contexts. Well-being cannot be reduced to single indicators such as income or employment but is inherently multidimensional and context-dependent (Fudge, Ogier, and Alexander 2021; Henderson, Morgan, and Debridge 2024). From a capability perspective, this implies that regional development should be evaluated in terms of the opportunities it creates for individuals and communities (shaped by economic conditions) to access services, environmental quality, and possibilities for participation (Grillitsch, Cobos-Cabral, and Horvat 2025; Nussbaum 2011). This aligns with broader calls to move beyond aggregate economic metrics and instead assess transformation in relation to people's capabilities and lived conditions (Bianchi et al. 2024; Lundvall 2024; Schot and Steinmueller 2018).

The link between well-being and sustainability further underscores the importance of socioecological thinking, where environmental quality is understood as a constitutive element of well-being rather than an external condition (Atkinson, Fuller, and Painter 2016; Fudge, Ogier, and Alexander 2021). From this perspective, well-being functions as a bridging concept that connects ecological transition, social sustainability, and place-based development. This highlights the interdependence of ecological and human dimensions and reinforces the need to evaluate transformation processes in terms of their concrete impacts on everyday life (Grillitsch, Cobos-Cabral, and Horvat 2025).

Incorporating well-being into S3 also has important governance implications. Because well-being is shaped by everyday environments and access to essential services, it cannot

be addressed by innovation policy alone, but requires integration across policy domains and levels (Fudge, Ogier, and Alexander 2021; Marques da Costa 2021). This strengthens the role of multilevel governance and highlights the importance of municipalities and cities, which operate closest to residents and shape many of the conditions that underpin well-being (Grillitsch, Stihl, and Hermelin 2026; McCann and Soete 2020). As a result, these actors are central not only in implementing sustainability transitions but also in interpreting locally meaningful development pathways (Grillitsch, Cobos-Cabral, and Horvat 2025).

The growing emphasis on participation in S3 further reinforces this perspective. Addressing societal challenges requires the inclusion of diverse actors whose experiences and needs shape development trajectories (Mäenpää and Lundström 2019; Pontikakis et al. 2022; Roman et al. 2020). Participation is therefore not only a procedural requirement but a substantive mechanism through which transformation goals are articulated and negotiated in place (Grillitsch, Coenen, and Morgan 2025). However, this also raises methodological and strategic challenges, as well-being is difficult to measure using standard economic indicators and requires mixed and context-sensitive approaches (Fudge, Ogier, and Alexander 2021).

Taken together, these developments suggest that well-being should not be seen as an additional theme within S3, but as a central dimension of its evolution. Rather than replacing economic objectives, a well-being perspective situates them within a broader understanding of development, where innovation contributes to public value and improved living conditions in specific places (Bianchi et al. 2024; Bryson et al. 2014; Ongaro and Yang 2024).

Well-being promotion in the Finnish context

In the Finnish context, well-being is broadly understood, making Finland an informative case for examining how smart specialization (S3) can connect with place-based well-being promotion. In Finnish cohesion policy discourse, regional development is explicitly framed as a basis for prosperity and well-being, linking territorial development to reducing disparities and improving citizens' well-being (Ministry of Economic Affairs and Employment of Finland 2024). Accordingly, well-being promotion is conceptualized as proactive, holistic, and collaborative action that strengthens economic, environmental, and societal conditions for sustainable development (WHO 2022). This is also institutionalized: under the Health and Social Care Act (612/2021), municipalities and well-being service counties are responsible for promoting well-being through strategic and multi-actor collaboration.

This governance model provides a useful empirical setting for examining how sustainability-oriented S3 can connect with well-being promotion in practice. However, such integration is not straightforward, as it requires coordination across sectors, administrative levels, and institutional domains. Previous research shows that well-being promotion in Finland has often remained fragmented, narrowly focused on individual behavior, and weakly integrated into broader governance processes (Leinonen and Syväjärvi 2022). Similarly, policies have been characterized by fragmentation and limited strategic coherence, reinforced by sectoral divides that hinder cross-cutting action (Almlund and Holm 2016). As a result, well-being promotion and sustainability have often developed along parallel rather than integrated trajectories.

These challenges are significant because well-being and sustainability are widely understood as mutually constitutive rather than separate policy domains (Jelsøe et al.

2018). In Finland, municipalities are central actors due to their responsibility for local conditions shaping everyday well-being, while well-being service counties coordinate regional efforts and knowledge production. This reinforces the importance of place-based governance, where municipalities operate not only as service providers but as key actors in aligning sustainable development and well-being (Grillitsch, Stihl, and Hermelin 2026; Guglielmin et al. 2018).

However, municipal capacities to fulfill this role vary considerably, and their position within multi-actor governance systems remains ambiguous (Grillitsch, Stihl, and Hermelin 2026; Kangas and Rynänen 2022; Sotarauta 2018). These limitations are particularly relevant in S3, where coordination of dispersed resources and actors is essential. As S3 processes often prioritize economic and innovation-driven objectives, broader societal goals such as well-being risk remaining marginal (Mayer 2022). This is further reinforced by narrow conceptualizations of well-being, which limit its integration into regional development and innovation policy (Leinonen and Syväjärvi 2022). Consequently, S3 may drift toward narrowly defined innovation agendas, leaving holistic well-being objectives underrepresented.

Taken together, these observations suggest that integrating well-being promotion into smart specialization requires stronger coordination across sectors and governance levels, as well as broader conceptualizations of development. This calls for approaches that combine innovation policy with social and territorial objectives and that are sensitive to regional specificities (Fudge, Ogier, and Alexander 2021; Marques da Costa 2021). It also highlights the need for analytical frameworks capable of capturing sustainability as a multidimensional and place-based process. Seghezzo's (2009) framework is useful for this, as it conceptualizes sustainability through the interconnected dimensions of Place, Permanence, and Persons and thus offers a useful lens for examining how sustainability, well-being, and regional transformation intersect in practice.

Sustainability: from three pillars to Seghezzo's multidimensional frame

Most discussions of sustainability begin from the familiar triad of economy, society, and environment, but this framework has been widely criticized as insufficient for capturing the complexity of development processes, particularly in relation to place-based transformation, temporal continuity, and lived well-being (Seghezzo 2009; Žak 2023). Seghezzo's framework addresses these limitations by reformulating sustainability through three interconnected dimensions – Place, Permanence, and Persons (see Figure 1). Place captures spatial and relational contexts, Permanence introduces a temporal perspective, and Persons emphasizes the human dimension, including identity, values, rights, and subjective well-being (Seghezzo 2009; Žak 2023). In doing so, the framework shifts attention from abstract balances between economic, social, and environmental domains toward territorially grounded experiences and long-term societal processes.

This reformulation is particularly relevant for analyzing sustainable well-being in the context of smart specialization. The key analytical question is not simply whether S3 incorporates sustainability, but how sustainability-oriented regional development is articulated through place-based practices, long-term coordination, and differentiated experiences of well-being. In this study, Place highlights territorially specific conditions and multilevel connections, Permanence draws attention to institutional continuity and strategic coordination over time, and Persons reveal issues of participation, inclusion, and whose well-being is prioritized (Isaksen, Trippel, and Mayer 2022; Seghezzo 2009). In this respect, the framework aligns with recent S3 debates emphasizing place-based

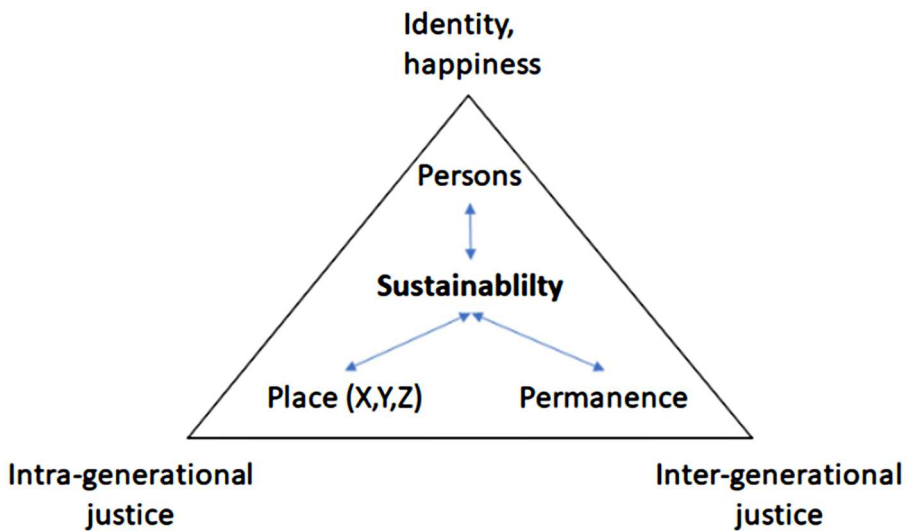


Figure 1. The five dimensions of sustainability according to Seghezzo (2009).

transformation, broader participation, and long-term governance (Bianchi et al. 2024; Pontikakis et al. 2022).

Although Seghezzo's framework has been widely cited, its empirical applications remain relatively limited. Existing uses range from indicator-based assessments in fields such as water and sanitation to more qualitative approaches examining sustainability processes (Iribarnegaray et al. 2012; 2015; Iribarnegaray and Seghezzo 2012; Turku, Jokinen, and Jokinen 2022). More generally, it has informed urban and regional planning and sustainability education by emphasizing the importance of spatial and human dimensions (Bárta and Ples 2021). At the same time, the framework has been criticized for its complexity, potential overlaps between dimensions, and challenges of scalability across different levels of analysis (Lemke 2021; Yihdego and Salem 2017).

In this study, however, these limitations do not undermine its usefulness. Rather, the potential overlaps between place and persons are analytically meaningful in the context of well-being promotion, where human experience is inherently embedded in spatial and social contexts. The framework is therefore applied not as a theory of S3 governance, but as a complementary analytical tool for examining how sustainability becomes visible in empirical accounts of well-being promotion.

From this perspective, Seghezzo's framework provides a useful way of connecting economic and industrial transformation with human well-being and everyday life. It offers a structured yet flexible approach for analyzing sustainability as a multidimensional, place-based, and temporally extended process. In this study, it is used to examine how sustainability is articulated in practices of well-being promotion, and how these practices relate to the broader sustainability turn in smart specialization.

Methodology, data, and analysis

This study adopts a qualitative case design. Empirically, it examines how actors involved in well-being promotion in Finland describe regionally embedded practices, long-term coordination, and the inclusion of different groups. Analytically, the study applies

theory-oriented qualitative content analysis, using Seghezze's (2009) framework as a complementary lens for interpreting the interview material (Schreier 2014). In this study, the framework is not used to explain S3 implementation directly. Instead, it is used to examine how spatial, temporal, and person-centered dimensions of sustainability are articulated in empirical accounts of well-being promotion.

The study is part of the Well-Being Promotion Competence Planning Project, funded by the European Social Fund and conducted between 2020 and 2021. The project aimed to strengthen the competencies of professionals and leaders engaged in well-being promotion in Northern Finland, to develop regional networks in this field, and to identify themes for continuing education. Within this setting, well-being promotion was approached as proactive, comprehensive, and collaborative action involving leadership, networks, participation, and digitalization. More broadly, it was understood through the logic of Health in All Policies as a multilevel activity extending across local communities, municipalities, and regional actors (Ståhl 2018).

The empirical material consists of 19 thematic interviews conducted between December 2020 and January 2021 via Microsoft Teams. Interviewees were selected through purposive sampling in order to include a diverse set of actors working with well-being promotion directly or indirectly. Of the 27 individuals contacted, 19 participated in the study. The interviewees represented municipalities, regional development organizations, nongovernmental organizations, companies, government, and higher education institutions (see Table 1). These organizational settings provided a broad institutional context for the study. However, the analysis does not focus on the formal role of these organizations in S3 implementation as such; rather, it examines how actors from different institutional backgrounds perceive and describe well-being promotion.

The composition of the interviewees reflects the broader shift in smart specialization from the entrepreneurial discovery process (EDP) toward a more open discovery process (ODP), which emphasizes the inclusion of a wider range of actors beyond firms (Pontikakis et al. 2022).

All interviews lasted approximately 40–60 min and were recorded, transcribed, and anonymized. The interviews addressed themes such as collaboration and networks, digital solutions and accessibility, economic aspects, methods of promoting well-being, evaluation and impact assessment, and the future role of well-being promotion in service structures and regional development. These themes were selected because they enabled us to examine how well-being promotion is organized, how it is coordinated across multiple levels, and how it is linked to strategic and practical development work.

Table 1. The interviewees' status information.

Type of organization	Role	Number of interviews
Third sector and non-governmental organizations	Specialist/manager	2
Cities and municipalities	Manager/coordinator	6
Development	Project manager	3
Private	Manager	3
Governmental	Manager/designer/ other	4
Higher education	Project manager	1

In the analysis, Seghezze's framework was operationalized in a way that brought it closer to the empirical material. Place was interpreted through three observable aspects: first, regionally embedded coordination and the local operating environments of well-being promotion; second, relational networks that connect places across municipal, regional, national, and international levels; and third, the sociocultural and virtual environments in which well-being practices unfold. Permanence was interpreted through strategic continuity, evaluation, knowledge use, institutionalization, and the longer-term coordination of activities. Persons was interpreted through the inclusion, participation, and differentiated well-being of individuals and groups. This operationalization follows Seghezze's emphasis on spatial, temporal, and human dimensions while adapting the framework to a governance-oriented empirical setting. Accordingly, the sample captures diverse institutional perspectives on well-being promotion, including municipalities, development organizations, governmental actors, NGOs, and higher education institutions. This design enables the analysis of how well-being promotion is organized across sectors and governance levels. However, as citizens and end users were not included, the findings primarily reflect institutional interpretations rather than lived experiences. However, the study does not examine formal S3 processes or strategy implementation directly. Instead, it approaches well-being promotion as an empirical entry point into the broader sustainability turn in regional development. The interview data were not collected from an explicit S3 perspective; rather, actors describe practices, coordination, and inclusion in their own terms. The connection to S3 therefore emerges analytically in the discussion, where the findings are interpreted in relation to debates on place-based coordination, long-term governance, and inclusive participation in sustainability-oriented S3.

The interviews were analyzed in NVivo 12 using theory-oriented content analysis (Schreier 2014). The analysis was guided by Seghezze's five dimensions of sustainability – Place (X, Y, Z), Permanence, and Persons – but remained open to empirically grounded interpretations of what these dimensions meant in the context of well-being promotion. The material was first coded into thematic units, after which similar subthemes were combined into broader categories. In this way, the analysis moved iteratively between the conceptual framework and the empirical material. The purpose was not to force the data into predefined categories, but to clarify how the dimensions of sustainability become visible in actors' descriptions of well-being promotion practices, structures, and challenges. Seghezze's five dimensions are therefore only used as a framework for identifying key elements of sustainable wellbeing promotion.

This methodological approach is particularly suitable for the present study because it allows a conceptually informed but empirically sensitive examination of how sustainable well-being is organized and understood in practice. It also provides a transparent way of linking the theoretical discussion on the sustainability turn in S3 with the empirical analysis that follows. Next, we will present our findings.

Results

Place: well-being promotion as territorially embedded coordination

The interview material shows that well-being promotion is strongly embedded in place, but that place should not be understood narrowly as a single municipal territory. Instead, interviewees described well-being promotion as organized through municipalities and well-being services counties, while in practice it was carried out through

geographically dispersed and inter-organizational networks involving public organizations, companies, higher education institutions, and nongovernmental organizations. Collaboration took place particularly through strategic development work. At the same time, the interviews revealed that coordination across actors was often challenging because the concepts of well-being and well-being promotion were not understood in a sufficiently shared or consistent way.

As one municipal representative put it:

If you haven't really dealt with [well-being promotion] ... and the fact that it is strategically managed work in the same way as any other work ... then [well-being promotion] is not yet self-evident to all parties.

Representative of municipality (1)

This observation illustrates that well-being promotion is not only organizationally distributed across multiple actors but also conceptually uneven, which complicates collaboration across administrative sectors and policy domains. The interviews further indicated that well-being promotion extends beyond the local and regional levels to national and international networks. National-level actors such as the Finnish Institute for Health and Welfare, the Association of Finnish Municipalities, and the Ministry of Social Affairs and Health were described as important in shaping the legal, organizational, and strategic conditions of local well-being work. International networks were seen as relevant particularly when well-being was linked to broader themes such as safety, regional development, and visibility in European policy contexts. In this sense, the empirical material shows that well-being promotion is not confined to one administrative level but is constituted through multi-scalar connections.

These findings suggest that well-being promotion unfolds through more than formal network structures. Interviewees described virtual and digital settings as increasingly important, especially following the COVID-19 pandemic, and emphasized that municipal well-being work was often organized through multi-actor working groups, welfare reports, and strategic planning processes. At the same time, the interviews highlighted those cultural conditions shape how well-being promotion is received and implemented. Individual attitudes, organizational cultures, and willingness to adopt new practices or technologies all influenced how well-being-related activities could be developed in practice.

This was captured clearly in another municipal interview:

[well-being promotion] requires cultural change. For example, when money decreases, that the same level of effectiveness should be strived for more and more.

Representative of municipality (4)

From the perspective of Seghezze's framework, these findings relate primarily to the Place dimension of sustainability. The interviews show that well-being promotion is territorially embedded, but also relational and multi-layered. Place emerges, first, through the concrete local operating environments in which municipalities organize strategic work; second, through the wider networks that connect local, regional, national, and international actors; and third, through the sociocultural and virtual environments in which well-being practices are shaped and enacted. In this sense, the findings support an interpretation of place not merely as geographic location, but as a socially, institutionally, and culturally mediated context of action (see [Table 2](#)).

Table 2. Examples of well-being structures and networks at different governance levels.

Examples of well-being at different levels		
Regional	National	International
• Broad network: police, NGOs companies, municipalities, regions, etc. • Networks between municipalities and research-, development- and innovation-organizations • Networks between non-governmental organizations • Narrow operative group responsible for well-being reports • Multi-professional wellbeing networks	• Regional groups connected via national networks of well-being actions • Ministry of Social Affairs and Health through laws • Networks coordinated by the Finnish Institute of Health and Welfare as well as the Association of Finnish Municipalities	• International well-being networks • Networks based on organizations' core themes • Thematic platforms (European Union) • Thematically broader networks, such as regional development

From the perspective of sustainability-oriented S3, these findings suggest that territorially embedded coordination is not a secondary implementation issue but a central condition of challenge-oriented regional development. The results indicate that well-being-related action depends on place-specific actor constellations, local interpretive capacities, and multilevel connections that allow broader policy ambitions to be translated into workable local forms. This is highly relevant to the contemporary transformation of S3, in which the focus is shifting from regional priority-setting alone toward the governance of place-based transformation processes. The findings also strengthen the view that municipalities and other subregional actors should be understood not simply as implementers of regional priorities, but as actors that help define locally meaningful development needs and connect them to wider innovation and policy frameworks.

The place-related findings can be summarized in three empirical dimensions. First, well-being promotion is physically and strategically organized through municipalities and local structures. Second, it is sustained through geographically diverse and multi-actor networks. Third, it takes shape in shared cultural and increasingly virtual environments that influence both participation and implementation.

Permanence: strategic continuity and the temporal conditions of sustainable well-being

The interviews indicate that the long-term sustainability of well-being promotion depends on continuity, coordination, and institutionalized management. Strategic collaboration appeared in the material as one of the key conditions of effective well-being promotion. Interviewees described well-being promotion as an activity that should be integrated into strategy work, goal setting, and implementation over time, rather than treated as a collection of isolated actions. Strategic collaboration also referred to the need to define and describe collaboration structures more clearly, particularly across organizational and sectoral boundaries.

A second recurring theme concerned the connection between well-being promotion and wider research, development, and innovation ecosystems. Several interviewees emphasized that ecosystem thinking should be more strongly integrated into well-being promotion and that EU funding could be used to develop structures and practices that support long-term well-being work. One interviewee described this potential in the following way:

People have been made to understand how the EU funding can be used and how it can be used to develop different structures and ways to promote well-being.

Representative of regional development organization (1)

At the same time, the material showed that the meaning of well-being within project-based and regional development structures often remained unclear. According to the interviewees, well-being-related themes received only moderate consideration in project applications, project decisions, and regional strategic planning, even though coordinated project activity was seen as potentially important for strengthening well-being promotion. Some interviewees also pointed to capacity gaps: actors in well-being promotion networks did not always have the skills, resources, or routines needed to make systematic use of development projects.

A third theme concerned management. The interviews showed that knowledge management, network management, and process management were all regarded as important, but they were not yet systematically established in practice. There were no widely shared structures at regional or municipal levels for collecting, combining, and using anticipatory well-being data in a coordinated manner. Nor were there common instruments for knowledge management across organizations. The interviews thus suggest that while knowledge is available, its use in decision-making and development work remains fragmented. This challenge was expressed particularly clearly by one interviewee from a sports company:

In general, there is a lot of data available. Utilizing it is perhaps the challenge in management in that you are at least not quite clear on how to utilize it in the best possible way. In other words, tools and applications are missing.

Representative of a sports company (1)

The material also highlighted the underutilized role of digitalization in well-being promotion, especially in relation to knowledge use and decision support. Although digital tools had become more common in-service provision and communication, their use in strategic steering and evaluation was still limited. Finally, the interviews emphasized the importance of impact assessment and prospective evaluation. Interviewees pointed to a lack of shared practices for assessing the longer-term effects of well-being promotion, as well as to the absence of a stronger benchmarking culture across municipalities and regions.

From the perspective of Seghezze's framework, these findings relate most clearly to Permanence. They make visible the temporal dimension of sustainable well-being by highlighting the need for continuity, institutionalization, strategic coordination, evaluation, and learning over time. Permanence is expressed not only in explicit long-term planning, but also in the organizational capacities that allow well-being promotion to persist beyond individual projects, administrative cycles, or temporary funding arrangements. The findings therefore suggest that the temporal horizon of sustainability becomes visible in the ways actors seek to stabilize collaboration, embed well-being into governance structures, and make use of knowledge in cumulative rather than episodic ways.

From the perspective of sustainability-oriented and transformative S3, these findings indicate that systemic change depends on more than priority-setting or thematic alignment. It also depends on whether governance arrangements can sustain action over time, coordinating multiple actors, and supporting policy learning. In this sense, the results speak directly to current debates on challenge-oriented and transformation-oriented S3, which emphasize the need for institutional continuity, monitoring, and adaptive governance rather than short-term project logic alone. The findings also suggest that if well-being is to function as a meaningful sustainability objective within S3, it must be embedded in structures that support longer-term coordination, data use, evaluation, and inter-organizational learning.

The permanence-related findings can be summarized through five interrelated elements: strategic collaboration, the integration of well-being promotion into wider innovation ecosystems, the development of knowledge, network, and process management, the more systematic use of digital solutions and artificial intelligence, and stronger approaches to evaluation and impact assessment.

Persons: participation, differentiated inclusion, and the social meaning of well-being

The interviews show that the human dimension of sustainable well-being promotion concerns both preventive and proactive action and the differentiated inclusion of people and groups. A central finding was that participation remains unevenly organized. Although municipalities and well-being services counties hold the formal responsibility for well-being promotion, interviewees emphasized that nongovernmental organizations play an important role in preventive work and in representing citizens' needs and experiences. NGOs were described as possessing experience-based knowledge that municipalities do not necessarily have access to through formal administrative channels. According to the material, however, this knowledge was not yet used systematically in service design or evaluation, and collaboration models between public actors, NGOs, and individual citizens were still developing.

The interviews also revealed that fragmentation in services and collaboration weakens the person-centered orientation of well-being promotion. One representative of a regional state administrative agency described the problem as follows:

From the point of view of services, there are many actors there. Everyone can act separately from each other, without a common goal. The customer should recognize the services, but the service providers know nothing about each other.

Representative of a regional state administrative agency (1)

This finding suggests that inclusion cannot be reduced to formal participation alone; it also depends on whether services and governance arrangements are organized in ways that make citizens' everyday experiences intelligible and manageable. Another important theme concerned the inclusion of different populations and vulnerable groups. Interviewees described the COVID-19 period as a moment in which some forms of inclusion were strengthened, for example through online youth clubs that complemented traditional services. At the same time, the interviews indicated that stronger inclusion of different population groups is still needed, especially in service design and in strategic municipal development. More generally, the material suggests that well-being is often assessed from the perspective of service structures rather than from the perspective of the individual person and everyday lived experience.

The interviews also highlighted the value of more individualized and inclusive methods in understanding well-being. Such methods were seen as important for making visible the social, physical, and even spiritual dimensions of people's everyday lives, as well as the role of social capital in sustaining well-being. In this sense, a person-centered orientation was linked not only to participation but also to the quality of understanding that municipalities and other actors have of local life situations, differentiated needs, and inequalities.

From the perspective of Seghezze's framework, these findings relate primarily to Persons. They show that well-being cannot be understood as an undifferentiated collective outcome, but must be approached in relation to different groups, life situations, and forms of participation. The findings bring into view whose knowledge is recognized, whose needs are articulated, and whose experiences remain only partially visible in the current structures of well-being promotion. The Person's dimension is therefore not limited to individual happiness or subjective well-being; in this empirical setting, it refers more broadly to the differentiated social reality in which inclusion, representation, and recognition are unevenly distributed.

From the perspective of sustainability-oriented and transformative S3, these findings suggest that broader participation cannot be treated as a procedural add-on. If S3 is increasingly interpreted as a challenge-oriented framework that addresses societal transformation, then it must also be attentive to whose well-being is being promoted, whose participation is enabled, and which groups risk remaining peripheral. The findings therefore support the contemporary shift from a narrower entrepreneurial discovery process toward more open and inclusive forms of discovery and governance. They also reinforce the idea that the legitimacy of sustainability-oriented S3 depends not only on economic or innovation outcomes, but on whether it can recognize socially differentiated needs and incorporate them into development processes in meaningful ways.

The persons-related findings can be summarized through three core aspects: the importance of preventive action and the role of NGOs, the need to consider different population groups and vulnerable groups more systematically, and the continuing importance of citizen participation as both a democratic and substantive component of well-being promotion.

Next, we connect the empirical findings with the literature and ongoing discussions about well-being in regional development.

Discussion and conclusions

This study examined how the sustainability focus has reshaped the implementation of smart specialization (S3) and how well-being promotion can be integrated into sustainability-oriented S3. The findings show that the sustainability turn has broadened S3 from a narrow focus on competitiveness and entrepreneurial discovery toward more place-based, multilevel, and socially embedded forms of development (Bianchi et al. 2024; Foray 2015; Foray et al. 2012; Pontikakis et al. 2022). In the Finnish case, sustainability does not appear as an additional policy layer, but as a shift in how regional development problems are defined, who participates in addressing them, and how success is evaluated. This becomes particularly visible through well-being promotion, which highlights dimensions of development not captured by conventional economic metrics (Fudge, Ogier, and Alexander 2021; Grillitsch, Cobos-Cabral, and Horvat 2025; Grillitsch, Coenen, and Morgan 2025; Grillitsch, Stihl, and Hermelin 2026; Pugalís and Keegan 2017).

First, sustainability reorients S3 from regional priority-setting toward the governance of territorially embedded transformation processes. The place-related findings show that well-being promotion operates across municipalities, well-being service counties, and multilevel networks linking local, regional, national, and international actors. This supports recent research emphasizing place-based transformation over sectoral specialization (Bianchi et al. 2024; Isaksen, Tripl, and Mayer 2022; Kruse 2023) and highlights municipalities as actors of change rather than mere implementers (Estensoro and Larrea 2016; Grillitsch, Cobos-Cabral, and Horvat 2025; Pugh 2018). In line with Seghezzo's (2009) framework, place is understood not only geographically, but also as institutional, cultural, and relational.

Second, sustainability extends the temporal horizon of S3 by emphasizing continuity, institutionalization, and long-term coordination. The permanence-related findings indicate that well-being promotion depends on strategic collaboration, knowledge use, and cumulative learning, rather than fragmented, short-term initiatives. This aligns with debates on transformative innovation policy, which stress the importance of long-term governance and adaptive coordination (Lundvall 2024; Schot and Steinmueller 2018). At the same time, the findings highlight ongoing challenges: despite ambitions for transformation, S3 implementation remains affected by fragmentation, project-based logic, and limited monitoring capacities (Bianchi et al. 2024; Pontikakis et al. 2022).

Third, sustainability reorients S3 toward stronger recognition of participation and differentiated well-being. The persons-related findings show that well-being cannot be treated as a uniform outcome, but must be understood in relation to diverse needs, unequal participation, and varying life situations. This supports the shift from entrepreneurial discovery toward more inclusive governance approaches (Pontikakis et al. 2022; Roman et al. 2020) and reinforces earlier critiques of weak social dimensions in S3 (Kroll 2015; Rakhmatullin and Hegyi 2021). NGOs emerge as important intermediaries, although their role remains insufficiently institutionalized. This highlights that the sustainability turn in S3 also involves questions of representation, inclusion, and whose knowledge is recognized (Isaksen, Tripl, and Mayer 2022; Seghezzo 2009).

Taken together, these findings suggest that well-being promotion can be integrated into sustainability-oriented S3 when it is approached as a cross-cutting, place-based dimension of regional transformation rather than as a separate policy domain. This requires, first, territorially embedded and multiscalar coordination; second, institutionalized and long-term governance practices; and third, inclusive participation in which diverse actors contribute substantively. In this respect, the study supports recent arguments that S3 should be understood in terms of public value, social sustainability, and broader societal purpose (Bianchi et al. 2024; Bryson et al. 2014; Ongaro and Yang 2024; Provenzano and Seminara 2023). Well-being thus functions both as a normative orientation and as an evaluative lens for regional transformation.

At the same time, the Finnish case demonstrates that such integration remains institutionally demanding. Despite stronger recognition of well-being, fragmentation across administrative structures and sectoral logics continues to hinder coordination (Almlund and Holm 2016; Leinonen and Syväjärvi 2022). This suggests that the sustainability turn in S3 does not automatically lead to coherent implementation, but requires intermediary capacities, shared concepts, and governance arrangements capable of linking multiple policy domains (Health and Social Care Act 612/2021; Marques da Costa 2021; McCann and Soete 2020).

The study also contributes theoretically by demonstrating the analytical value of Seghezzo's (2009) framework. By shifting attention from the traditional three-pillar model to the dimensions of Place, Permanence, and Persons, the framework enables a

more nuanced understanding of sustainability as territorially embedded, temporally extended, and socially differentiated (Seghezzeo 2009; Žak 2023). This supports recent calls for more context-sensitive approaches that connect sustainability with lived experience and long-term change (Atkinson, Fuller, and Painter 2016; Fudge, Ogier, and Alexander 2021).

Future research should further explore these dynamics through comparative and longitudinal studies, examining how different governance contexts shape the integration of well-being and sustainability in S3 (Lundvall 2024; Pontikakis et al. 2022). Attention should be paid to how participation translates into lived well-being across different population groups (Fudge, Ogier, and Alexander 2021; Roman et al. 2020), and how analytical frameworks such as Seghezzeo's can be applied in other regional development settings (Iribarnegaray et al. 2012; Turku, Jokinen, and Jokinen 2022).

Overall, the findings indicate that the sustainability focus has made S3 more place-sensitive, temporally oriented, and socially inclusive. Well-being promotion can be integrated into this transformation when it is treated as a core dimension of development, shaping how innovation contributes to the conditions for living well in specific places (Grillitsch, Cobos-Cabral, and Horvat 2025; Henderson, Morgan, and Debridge 2024).

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Declaration of the use of generative AI

During the preparation of this work, the authors have used Microsoft Copilot to assist in the summarization and consolidation of the text as well as in language editing. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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No potential conflict of interest was reported by the authors.

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References

- Almlund, P., and J. Holm. 2016. "Post Rio and Ottawa Policy – Health Promotion and Sustainable Development Compared." *The Journal of Transdisciplinary Environmental Studies* 14 (2): 19–35.
- Atkinson, S., S. Fuller, and J. Painter. 2016. *Wellbeing and Place*. London: Routledge.
- Bárta, O., and M. Ples. 2021. "Sustainability in Learning Mobility: Exploratory Study. Youth Partnership." https://pjpeu.coe.int/documents/42128013/47261800/Sustainability+in+Learning+Mobility_Exploratory+Study+by+B%C3%A1rta+Ples.pdf/fef158f2-5309-5156-f571-da65253095e1.
- Bianchi, G., C. Matti, D. Pontikakis, R. Reimeris, K. H. Haegeman, M. Miedzinski, C. Sillero Illanes, et al. 2024. *Innovation for Place-based Transformations*. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2760/234679>.
- Bryson, J. M., B. C. Crosby, and L. Bloomberg. 2014. "Public Value Governance: Moving Beyond Traditional Public Administration and the New Public Management." *Public Administration Review* 74 (4): 445–456. doi:10.1111/puar.12238.
- Estensoro, M., and M. Larrea. 2016. "Overcoming Policy Making Problems in Smart Specialization Strategies: Engaging Subregional Governments." *European Planning Studies* 24 (7): 1319–1335. <https://doi.org/10.1080/09654313.2016.1174670>.
- European Court of Auditors. 2025. "Smart Specialisation Strategies in the EU." *Review* 5. Smart Specialisation Strategies in the EU.
- Foray, D. 2015. *Smart Specialisation: Opportunities and Challenges for Regional Innovation Policy*. Abingdon: Routledge.
- Foray, D. 2025. *Smart Specialisation Strategies Need to Enter a Third Historical Phase to Promote Truly Sustainable Development in Regional Economies*. JRC Working Paper Series For a Fair, Innovative and Sustainable Economy, 06/2025. Seville: European Commission.
- Foray, D., M. Eichler, and M. Keller. 2021. "Smart Specialization Strategies—Insights Gained from a Unique European Policy Experiment on Innovation and Industrial Policy Design." *Review of Evolutionary Political Economy* 2 (1): 83–103. <https://doi.org/10.1007/s43253-020-00026-z>.
- Foray, D., J. Goddard, X. Goenaga Beldarrain, M. Landabaso, P. McCann, K. Morgan, C. Nauwelaers, and R. Ortega-Artilés. 2012. *Guide to Research and Innovation Strategies for Smart Specialisation (RIS3)*. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2776/65746>.
- Fudge, M., E. Ogier, and K. Alexander. 2021. "Emerging Functions of the Wellbeing Concept in the Regional Development Scholarship: A Review." *Environmental Science & Policy* 115:143–150. <https://doi.org/10.1016/j.envsci.2020.10.005>.
- George, G., A. M. McGahan, and J. Prabhu. 2012. "Innovation for Inclusive Growth: Towards a Theoretical Framework and a Research Agenda." *Journal of Management Studies* 49 (4): 661–683. <https://doi.org/10.1111/j.1467-6486.2012.01048.x>.
- Grillitsch, M., F. Cobos-Cabral, and A. Horvat. 2025. "Change Agency and the Capability Approach: Regional Development and Well-being on the Edge." *Economic Geography* 101 (5–6): 385–410. <https://doi.org/10.1080/00130095.2025.2571094>.
- Grillitsch, M., L. Coenen, and K. Morgan. 2025. "Directionality and Subsidiarity: Sustainability Challenges in Regional Development Policy." *Regional Studies* 59 (1): Article 2492171. <https://doi.org/10.1080/00343404.2025.2492171>.
- Grillitsch, M., L. Stihl, and B. Hermelin. 2026. "Municipalities: Actors of Change in Regional Development?" *Geoforum: Journal of Physical, Human, and Regional Geosciences* 173: Article 104660. <https://doi.org/10.1016/j.geoforum.2026.104660>.
- Guglielmin, M., C. Muntaner, P. O'Lampo, and K. Saankardass. 2018. "A Scoping Review of the Implementation of Health in All Policies at the Local Level." *Health Policy* 122 (23): 284–292. <https://doi.org/10.1016/j.healthpol.2017.12.005>.
- Guzzo, F., and C. Gianelle. 2021. *Assessing Smart Specialisation: Governance*. Luxembourg: Publications Office of the European Union (European Commission, Joint Research Centre). <https://publications.jrc.ec.europa.eu/repository/handle/JRC123984>.
- Hassink, R., and H. Gong. 2019. "Six Critical Questions about Smart Specialization." *European Planning Studies* 27 (10): 2044–2061. <https://doi.org/10.1080/09654313.2019.1650898>.
- Henderson, D., K. Morgan, and R. Debridge. 2024. "Mundane Innovation in the Periphery: The Foundational Economy in a Less Developed Region." *Regional Studies* 58 (11): 2146–2157. <https://doi.org/10.1080/00343404.2024.2320769>.

- Iribarnegaray, M. A., F. R. Copa, M. L. Gatto D'Andrea, M. F. Arredondo, J. D. Cabral, J. J. Correa, V. I. Liberal, and L. Seghezzo. 2012. "A Comprehensive Index to Assess the Sustainability of Water and Sanitation Management Systems." *Journal of Water, Sanitation and Hygiene for Development* 2 (3): 205–222. <https://doi.org/10.2166/washdev.2012.005>.
- Iribarnegaray, M. A., D. Gatto, M. L. Andrea, M. S. Rodriguez-Alvarez, M. E. Hernández, C. Brannstrom, and L. Seghezzo. 2015. "From Indicators to Policies: Open Sustainability Assessment in the Water and Sanitation Sector." *Sustainability* 7 (11): 14537–14557. <https://doi.org/10.3390/su71114537>.
- Iribarnegaray, M. A., and L. Seghezzo. 2012. "Governance, Sustainability and Decision Making in Water and Sanitation Management Systems." *Sustainability* 4 (11): 2922–2945. <https://doi.org/10.3390/su4112922>.
- Isaksen, A., M. Trippel, and H. Mayer. 2022. "Regional Innovation Systems in an Era of Grand Societal Challenges: Reorientation versus Transformation." *European Planning Studies* 30 (11): 2125–2138. <https://doi.org/10.1080/09654313.2022.2084226>.
- Jelsøe, E., N. Thualagant, J. Holm, B. Kjærgård, H. L. M. Andersen, D.-M. From, B. Land, and K. B. Pedersen. 2018. "A Future Task for Health-promotion Research: Integration of Health Promotion and Sustainable Development." *Scandinavian Journal of Public Health* 46 (Suppl 20): 99–106. <https://doi.org/10.1177/1403494817744126>.
- Kangas, H. R., and S. P. Rynänen. 2022. "Fostering Smart Specialisation: The Emergence of Guided Self-organisation at the Regional Level." *Urban, Planning and Transport Research* 10 (1): 110–130. <https://doi.org/10.1080/21650020.2022.2057357>.
- Kangas, R., and T. Aarrevaara. 2020. "Higher Education Institutions as Knowledge Brokers in Smart Specialisation." *Sustainability* 12 (7): 3044. <https://doi.org/10.3390/su12073044>.
- Kroll, H. 2015. "Efforts to Implement Smart Specialization in Practice—Leading Unlike Horses to the Water." *European Planning Studies* 23 (10): 2079–2098. <https://doi.org/10.1080/09654313.2014.1003036>.
- Kroll, H. 2018. "From Strategy to Implementation: What Is Desirable and What Realistic?." *Fraunhofer ISI Discussion Papers Innovation Systems and Policy Analysis* (59). <https://doi.org/10.24406/publica-fhg-299252>.
- Kruse, M.. 2023. "On Sustainability in Regional Innovation Studies and Smart Specialisation', Innovation." *The European Journal of Social Science Research* 38 (2). <https://doi.org/10.1080/13511610.2023.2208294>.
- Leinonen, J., and A. Syväjärvi. 2022. "Barriers to Health Promotion Strategy Work in Finnish Municipalities." *Health Promotion International* 37 (3): 1–11. <https://doi.org/10.1093/heapro/daac091>.
- Lemke, C. 2021. "Conceptual Framework of Sustainable Development." In *Accounting and Statistical Analyses for Sustainable Development. Sustainable Management, Wertschöpfung und Effizienz*, 9–39. Wiesbaden: Springer Gabler. https://doi.org/10.1007/978-3-658-33246-4_2.
- Llena-Nozal, A., N. Martin, and F. Murtin. 2019. *The Economics of Wellbeing: Creating Opportunities for People's Well-being and Economic Growth*. OECD Statistics Working Papers, No. 2019/02. Paris: OECD Publishing. <https://doi.org/10.1787/498e9bc7-en>.
- Lundvall, B.-Å. 2024. "Transformative Innovation Policy: Lessons from the Innovation System Literature." *Innovation and Development* 14 (2): 297–314. <https://doi.org/10.1080/2157930X.2022.2158996>.
- Mäenpää, A. 2020. *The Challenges of Public Organisations in Coordinating Smart Specialisation and a Connectivity Model as One Solution*. Acta Wasaensia, 438. Vaasa: <http://urn.fi/URN:ISBN:978-952-476-898-6>.
- Mäenpää, A., and N. Lundström. 2019. "Entrepreneurial Discovery Processes through a Wicked Game Approach: Civil Society Engagement as a Possibility for Exploration." In *The Entrepreneurial Discovery Process and Regional Development*, edited by Å Mariussen, S. Virkkala, H. Finne, and T. M. Aasen, 74–91. Abingdon: Routledge.
- Marques da Costa, E. 2021. "Commentary: Social Issues and Wellbeing in the EU – Challenges for Cohesion Policy." In *EU Cohesion Policy and Spatial Governance: Territorial, Social and Economic Challenges*, edited by D. in Rauhut, F. Sielker, and A. Humer, 260–270. Cheltenham: Edward Elgar.
- Mayer, C. 2022. "Social Innovation Governance in Smart Specialization Policies and Strategies Heading towards Sustainability: A Pathway to RIS4?" *Social Sciences* 11 (4): Article 150. <https://doi.org/10.3390/socsci11040150>.

- McCann, P., and L. Soete. 2020. *Place-based Innovation for Sustainability*. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2760/250023>.
- Ministry of Economic Affairs and Employment of Finland. 2024. "EU's Cohesion Policy Provides a Basis for Prosperity and Wellbeing." <https://tem.fi/en/eu-s-cohesion-policy>.
- Neto, P., M. M. Serrano, and A. Santos. 2018. "Renewed Challenges for Public Policies in Post-2020 Cohesion Policy." *Public Policy Portuguese Journal* 3 (1): 8–26.
- Nussbaum, M. C. 2011. *Creating Capabilities: The Human Development Approach*. Cambridge, MA: Harvard University Press.
- Ongaro, E., and K. Yang. 2024. "Integrating Philosophical Perspectives into the Study of Public Administration: The Contribution of Critical Realism to Understanding Public Value." *Public Policy and Administration* 40 (3): 477–496. doi:10.1177/09520767241246654.
- Poikela, R. 2025. *Strategic Governance of Smart Specialisation: Aligning Change Agency, Opportunity Spaces and Transformative Innovation Policy*. Acta electronica Universitatis Lapponiensis, 418. Rovaniemi: University of Lapland. <https://urn.fi/URN:ISBN:978-952-337-507-9>.
- Poikela, R., A. Mäenpää, and M.-P. Laakkonen. 2023. "Why Caring Counts: Public Value Creation in Smart Specialisation through Partnerships for Regional Innovation (PRI)." *European Journal of Spatial Development* 20 (2): 22–42. <https://doi.org/10.5281/zenodo.8026334>.
- Pontikakis, D., I. Gonzalez Vazquez, G. Bianchi, L. Ranga, A. Marques Santos, R. Reimeris, S. Mifsud, K. Morgan, C. Madrid Gonzalez, and K. Stierna. 2022. *Partnerships for Regional Innovation Playbook*. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2760/292307>.
- Provenzano, V., and M. R. Seminara. 2023. "S4+ and the Sustainability Dimension for a new Territorial Perspective." In *New Metropolitan Perspectives: NMP2022*, edited by C. Bevilacqua, P. A. Balland, C. Kakderi, and V. Provenzano, 37–50. Cham: Springer. https://doi.org/10.1007/978-3-031-34211-0_3.
- Pugalis, L., and D. Keegan. 2017. "The Regional Economic Development Paradox: Attempting Policy Order in the Face of Social Complexity." *Australasian Journal of Regional Studies* 23 (1): 68–95.
- Pugh, R. 2018. "Questioning the Implementation of Smart Specialisation: Regional Innovation Policy and Semi-autonomous Regions." *Environment and Planning C: Politics and Space* 36 (3): 530–547. <https://doi.org/10.1177/2399654417717069>.
- Rakhmatullin, R., and F. B. Hegyi. 2021. *Exploring the Potential of Thematic Smart Specialisation Partnerships to Contribute to SDGs*. EUR 30806 EN. Luxembourg: Publications Office of the European Union. <https://doi.org/10.2760/728381>.
- Roman, M., H. Varga, V. Cvijanovic, and A. Reid. 2020. "Quadruple Helix Models for Sustainable Regional Innovation: Engaging and Facilitating Civil Society Participation." *Economies* 8:48. <https://doi.org/10.3390/economies8020048>.
- Schot, J., and W. E. Steinmueller. 2018. "Three Frames for Innovation Policy: R&D, Systems of Innovation and Transformative Change." *Research Policy* 47 (9): 1554–1567. <https://doi.org/10.1016/j.respol.2018.08.011>.
- Schreier, M. 2014. "Qualitative Content Analysis." In *The SAGE Handbook of Qualitative Data Analysis*, edited by U. in Flick, 170–183. London: SAGE Publications. <https://doi.org/10.4135/9781446282243.n12>.
- Seghezze, L. 2009. "The Five Dimensions of Sustainability." *Environmental Politics* 18 (4): 539–556. <https://doi.org/10.1080/09644010903063669>.
- Sotarauta, M. 2018. "Smart Specialization and Place Leadership: Dreaming about Shared Visions, Falling into Policy Traps?" *Regional Studies, Regional Science* 5 (1): 190–203. <https://doi.org/10.1080/21681376.2018.1480902>.
- Ståhl, T. 2018. "Health in All Policies: From Rhetoric to Implementation and Evaluation – The Finnish Experience." *Scandinavian Journal of Public Health* 46 (20_suppl): 38–46. <https://doi.org/10.1177/1403494817743895>.
- Trippl, M., F. Fastenrath, and A. Isaksen. 2023. "Smart Specialization Strategies and Regional Transformation: A Comparative Perspective." *European Planning Studies* 31 (4): 738–757. <https://doi.org/10.1080/09654313.2022.2068950>.
- Turku, V., A. Jokinen, and P. Jokinen. 2022. "How Do Time-bound Practices Initiate Local Sustainability Pathways?" *Sustainable Cities and Society* 79:Article 103697. <https://doi.org/10.1016/j.scs.2022.103697>.

- WHO. 2022. *Achieving Well-being: A Global Framework for Integrating Well-being into Public Health Utilizing a Health Promotion Approach*. Geneva: World Health Organization.
- Yihdego, Y., and H. Salem. 2017. "The Challenges of Sustainability: Perspective of Ecology." *Journal of Sustainable Energy Engineering* 5 (4): 341–361. <https://doi.org/10.7569/jsee.2017.629519>.
- Žak, A. 2023. "Multiple Perspectives on Sustainable Development." In *Organizing Sustainable Development*, edited by A. Kuźniarska, K. Mania, and M. Jedynak, 77–90. Abingdon: Routledge. <https://doi.org/10.4324/9781003379409-8>.