Community-driven social innovation and quadruple helix coordination in rural development. Case study on LEADER group Aktion Österbotten

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Abstract

Social innovations (SIs) are new ideas that create collaboration or new social relationships and thus meet local needs. The purpose of the research is to understand the role of SIs and community-based quadruple-helix actors in rural development. The research question is how do community-based quadruple-helix actors contribute to the formation of SI networks in the context of rural development?

The triple helix model represents innovations as emerging in cooperation between three helices (university, industry, and government). The quadruple helix (QH) adds civil society as a fourth helix. Using the QH model in rural development requires a broad definition of the helices. In addition to universities, all types of educational and research institutes are important. In addition, different types of public organisations are important, not just the government. We define the fourth helix as representing civil society as a community, not just individual citizens. Our main argument is that the QH model fosters understanding of the variety of formal and informal ways in which SI enables societal development in rural areas. We examine the relevant relationships with the help of the strands of literature on SI and QH, and also a case study on projects conducted under the LEADER programme (Aktion Österbotten) in Finland. The case study is based on a narrative approach inspired by the learning history method, with the identification of critical incidents, which help us to identify how the QH evolves throughout successful community-driven SIs. The narrative approach reveals the significance of informal communities in transforming QH relations.

Many projects under the LEADER programme aim to strengthen the attraction of communities by promoting local identity, including broad participation in collective events, such as enjoying nature, cultural events, sports, and other social activities. Many of those activities have the potential to spill over into other types of SI, such as entrepreneurship oriented towards tourism and new solutions to social needs. The decisive factor for the success of the projects was the involvement of local communities. The local knowledge of the communities was nourished in the projects in interaction with other local and extra-local QH actors.

Accordingly, the main contribution of the paper is combining the notions of SI and the QH, and presenting the fourth helix as a community enabling rural development. We call this rural development model the community-driven QH model.

KEYWORDS: Social innovation, community, quadruple helix, neo-endogenous rural development, narrative, Finland

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1 Introduction

Social innovation (SI) can be defined as 'the development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships' (European Commission, 2013: 6). These ideas, like destination development and place branding, might come from different sources. We are interested in how those ideas create motivation and enable various stakeholders to connect and implement them. Various kinds of social needs drive various types of SI. Social needs can include marginalisation, poverty, or other problems usually seen as the target of social or welfare state policies. Accordingly, a great deal of the interest in SI starts with accounts of problems public organisations can no longer address owing to policies promoting austerity.

In this article, the SI in question is that driven by the need for sustainable rural development (Neumeier, 2012), and we investigate instances of SI creating new opportunities for rural localities instead of adapting to the necessities occasioned by austerity. Our point of departure is a case study in Ostrobothnia (Finland), a lively rural area with active and innovative analysable local communities. These local communities often use LEADER local action groups (Aktion Österbotten, www.aktion.fi). LEADER is an EU rural development program supporting rural development through social innovations. In many cases, the community itself was both the point of departure for the organisation of the networks and development of the community was the objective of those networks. Many projects aim to *strengthen their communities* to make them attractive places where people can live long and happy lives. They do that by promoting local identity, including broad participation in collective events, such as the enjoyment of nature, cultural events, sports and other social activities. In addition, many such activities have a potential to spill over into other types of SI, such as entrepreneurship oriented towards tourism and new solutions to social needs.

Accordingly, we are interested in the variety of ways in which *rural communities* are enabling SI and promoting rural development.

In the tradition of Tönnies (1887), 'community' is often seen as referring to local communities, held together by specific, locally defined values, identity and solidarity; however, there are different types of communities (Mayntz, 2010). According to Mayntz (2010: 39):

> Communities are composed of individuals who share a specific characteristic (descent, locality, value, belief, knowledge, skill, interest). Group members are peers with respect to the shared characteristics, they are conscious of sharing it, which means that the shared characteristic constitutes the identity of the collective and of its members.

In the communities of interest here, the coordinating mechanisms refer to *the ways in which the shared value, knowledge, or skills are orienting the actions of members of the community*.

Accordingly, local and other kinds of communities constitute coordinating mechanisms. Using community forms of coordination means that decisions are made between equals with reference to a shared characteristic (Mayntz 2010). The shared characteristic – which makes it possible to participate in the community – may be local identity among people living there, or, as we will see below, shared

identity and knowledge among people playing and watching ice hockey. This is important in two respects. First, it might help innovators in local communities promoting ice hockey to go beyond the local community and mobilise participation and support from others, such as ice hockey players or fans in other parts of Finland or abroad.

Secondly, community as a form of coordination may cut across the boundaries between other forms of coordination, such as market, hierarchy and network. The case studies presented in this article show how local innovation networks are in various ways able to access participation from and make use of *Quadruple Helix (QH)* through connections between rural communities (villages or municipalities), communities of expertise in universities, and public organisations, and also business communities. In this way, community-based actors may access support from several networks beyond the local community.

We refer to these strategies as a community-driven QH model.

The research question is ***how do community-based QH actors contribute to the formation of social innovation networks in support of rural development?***

This question builds on the neo-endogenous development model, where local development is seen as something promoted by connectivity between local and wider – national or global – communities. The neo-endogenous approach suggests that connecting the local community to other types of communities, outside the locality (Lowe et al., 2019; Ray, 2006; Bock, 2016) promotes local development. The paper responds to the need for more grounded empirical case studies expressed by several authors (e.g., Bosworth et al., 2016). References to QH arrangements refer to actors representing different helices like universities, industry, government, and civil society. In studying QH networks, the current paper responds to suggestions to study actor constellations in SI processes (Neumeier, 2017).

Accordingly, the current research constructs a rural development model consisting of the elements SI, QH, and community, where community links the other two elements. The cross-fertilisation of SI and QH in this paper develops both concepts, for two reasons. First, the QH literature is based on the Triple Helix literature, assuming a macro perspective and focusing on scientific and technological expert knowledge, and that has inhibited the understanding of what constitutes the fourth helix. Scholars have tried to identify specific actors, such as users or civic organisations, or defined the fourth helix as a general backdrop to innovation related activities (Nordberg, 2015). Here, we argue that a community-based understanding of the fourth helix is a relevant addition to the literature.

We discovered that local communities cooperate with different actors like companies, public organisations, and educational institutes in different ways. Although the importance to SI of networks, partnerships, and cooperation in rural areas has been emphasised (for instance in LEADER), we argue that if trying to understand the features of social networks necessary to advance rural development, the QH concept enables a more sophisticated analysis. The QH literature describes the helices as encompassing differing rationales and selection environments.

Second, in the literature on SI, the definition of expressions of interest and participation are not clear cut. As Neumeier (2017) pointed out, this lack of precision raises the question of determining factors influencing participation in SI networks; questions like: Who are the stakeholders, and why are they in the network? The questions of *who* and *why* invite the question of what the network is all about. That involves asking which stakeholders with what kind of interests are able to set the agenda of the discussion, make sense of the challenge, and define the direction of the innovation strategy and the objective. The QH model is useful for understanding the determining factors, which encourage participation, and open up an understanding of the variety of ways actors in rural communities can successfully implement SI. We argue that the community-driven QH model is relevant for understanding the variety of ways in which SI enables societal development in rural areas or fails to do so. We use the QH model to classify different types of community-driven social innovations, such as public-sector, firm-centred, educational institute (or university) and citizen-driven types.

Regarding previous studies on this theme, Wellbrock et al. (2012) constructed a model for rural regional learning based on the helix actors. Kolehmainen et al. (2016) emphasised the applicability of the QH approach to studying innovation systems in rural regions but did not explicitly examine SI. SI has hardly been studied from the QH perspective owing to the origins of a concept highlighting the role of universities, which has been more distant in rural studies. However, the neo-endogenous rural development literature assigns universities and educational institutes a crucial role, which introduces compromises and tensions between top-down and bottom-up development policies (Ray, 2006; Lowe et al., 2019). We think that universities and educational institutes can assist SI processes in rural areas as a part of a cooperation coalition.

There is an emerging body of literature on a broad range of SI in the context of rural development (Bock, 2016; Bosworth et al., 2016; Neumeier, 2017; Richter et al., 2020; Ubels et al., 2019). Scholars have examined the role of civic initiatives, social capacities and social cohesion, and social entrepreneurship in the formation of social innovations in rural areas. Many scholars have also emphasised SI as a collaborative practice in which communities have a central role (Bock, 2016; Neumeier, 2012). Social innovation has been seen as embodying co-creation and partnerships in the rural development context and is often linked with the LEADER programme and its prime method, community-led local development, which is a bottom-up and partnership-based territorial development approach.

As we show below, the critical incidents in processes of community-driven SI are the events when new networks are created between helices and their communities. We aim to understand the SI process in the LEADER context and accordingly analyse the involvement of stakeholders defined as QH actors in this process.

The next section describes the conceptual framework consisting of rural development approaches, the QH arrangement based on communities, and SI. We aim to integrate these elements into a model of community-driven, QH-based, SI in the rural development context. Section 3 introduces the learning history and narratives as method and the case study, in the form of accounts of selected projects from the LEADER programme, Aktion Österbotten. Section 4 examines the link between social needs, ideas

and networks responding to the needs with the help of the typology of the drivers of the SI processes. It clarifies the mechanisms as well as the impacts of the SIs devised in the projects. The final section concludes by examining the use of the QH model to identify drivers and different ways to connect the helix actors.

2 Conceptual framework

Understanding and fostering innovations in rural areas is important in modernising the rural economy (OECD0, 2006). Rural areas offer a favourable context for SIs in particular because they contain small cohesive communities (Bosworth et al., 2016). Before exploring the concept of SI further, we examine the context of rural development and especially the neo-endogenous development model. We argue that in order to understand the features of social networks necessary to advance rural development, the interaction between QH actors should be scrutinised. The driver of social innovation in a rural context is often a community-based QH.

2.1 Neo-endogenous (networked) rural development

Rural areas face difficult challenges that can hider sustained growth and development that arise from peripherality, accessibility, and marginalisation. Nevertheless, rural areas also potentially possess significant advantages over urban areas through their social capital, strength of identity, local bonds, and strong social networks (Szreter & Woolcock, 2004; Magnani & Struffi, 2009). In Nordic countries, rural-urban migration has influenced the age, gender, and socio-economic balance of rural and remote regions as young, well-educated and economically active people have moved to urban areas (Copus et al., 2017: 10) and SIs are seen as responses to these challenges.

Approaches to rural development are often analysed using exogenous, endogenous and neo-endogenous development models. According to the exogenous or top-down model, the main forces of progress are conceived as being outside rural areas, like industrialisation or technological change. The endogenous development model emphasises the realisation of the indigenous potential, like natural and human assets and local knowledge. Neo-endogenous development theory is a synthesis, based on local resources and participation but also characterised by dynamic interactions between local areas and their wider environments (Ray, 2006), promoting local and extra-local connections that strengthen the terms on which local people deal with the outside world (Lowe et al., 2019).

The LEADER programme aims to improve the wellbeing of local people with the help of community-led local development (CLLD), with the main aim being to mobilise local people and resources. Local action groups encourage local community organisations and businesses to test new ways of developing their territory and exploiting regional assets.

According to Bock (2016), rural development models should take more account of the broader processes of social change like globalisation, growing mobility, urbanisation, and financial crises, which lead to the marginalisation of some rural areas. Bock developed the neo-endogenous models and specified the importance of extra-local links in advancing rural development. Bock also proposed rethinking social and

spatial solidarity; underlining that SI should address the uneven effects of social change and take account of rural-urban connections and the reconnection of rural places so that SI in rural areas becomes a common concern. Achieving that goal would mean establishing socio-political connectivity with actors from urban and peri-urban areas is relevant in the SI processes of rural areas. Social innovation could then transcend the boundaries set by rural places.

The crucial factor in many rural development models is local and/or extra-local networks. It seems important that local communities cooperate with different types of actors like companies, public organisations, and educational institutes. The collaboration between actors representing different sectors can be approached with the concept of QH cooperation. The driver of SIs in rural areas is often community-based QH networks targeting shared local development.

2.2 Quadruple helix

Kolehmainen et al. (2016) found the QH approach to be useful for supporting knowledge-based development and innovativeness in rural and less-favoured regions. The approach of this paper emphasises SI and QH arrangements in the rural development context. The QH approach is an extension of the triple helix (TH) model that emphasises the role of universities in the knowledge economy (Borkowska & Osborne, 2018; Carayannis & Campbell, 2009; MacGregor et al., 2010; McAdam et al., 2016). According to the TH model, the best environments for innovation are created at the intersection of the helices, where different types of knowledge and institutional logics intermingle. The TH model (Etzkowitz & Leydesdorff, 2000) is used to describe both dynamic interaction between universities, companies, and public organisations and institutional continuity, as these helices consist of historical institutions with selection environments or rules. The idea of institutional differentiation may seem a good point of departure for an empirical study. However, scholars challenge the use of the TH model in rural areas (Dargan & Shucksmith, 2008) owing to its emphasis on scientific and technological expert knowledge. A broader approach to knowledge is possible when we extend the TH model by adding civil society as the fourth helix (Figure 1).

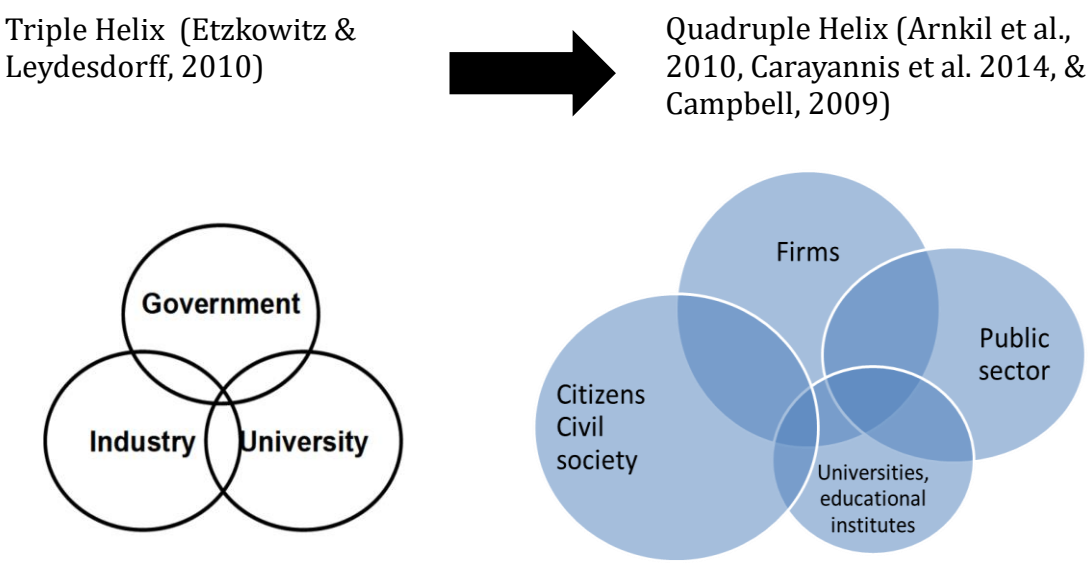

Figure 1. From triple helix to quadruple helix

The current research aligns with Wellbrock et al. (2012) in viewing the approach advocating integration and interaction between the helices (or sectors) as important for rural development, since it facilitates the knowledge sharing required for innovation processes. However, instead of business or organisational innovations, this paper focuses on social innovations and extends the TH approach to that of the QH: the fourth helix in this case being local communities. Communities are more than collectives of various actors or activities – they are collectives with shared interests.

Arnkil et al. (2010) constructed four types of QH models as ideal types. The first type extends the traditional TH model through the utilisation of user information. The second type is a firm-centred centred living lab, in which users are treated both as informants and as developers. The third is a public-organisation-centred living lab, which aims to develop public organisations so that they can offer better products and services to citizens. In the fourth type, citizens are in the driver's seat, and they decide what kind of innovations are required and are developed. The role of firms, public organisations and universities is to support citizens in their innovation activities (Arnkil et al., 2010: 71-73).

This paper develops the fourth QH model and especially QH community-driven SI. SIs here are relevant for local citizens but also for communities like villages and NGOs. We argue that rural areas with geographically and socially relatively well-demarcated communities offer appropriate cases for developing this model.

The current research emphasises the role of educational institutions in creating expertise and knowledge, as well as belief in future sustainable local development. Educational institutions, like universities of applied sciences and folk high schools (Nordic residential colleges for adult education),

can create the preconditions for local development firstly by processing local knowledge and integrating it into wider contexts of knowledge, and secondly by filtering global research information in locally applicable contexts. Sometimes the regional development agencies may take the role of intermediating organisations or knowledge brokers. They must then identify and acquire indigenous knowledge about localities and locally embedded resources.

2.3 Social innovation and rural development

Social innovation is a contested concept with many meanings (Moulaert et al., 2013). There are many analytical and normative definitions of SI in the literature, for instance, Moulaert et al. (2005: 1976) stress three dimensions of SI:

- 'Satisfaction of human needs that are not currently satisfied' [because they are not] 'perceived as important by either the market or the state (content dimension)'
- 'Changes in social relations especially with regard to governance that enable the satisfaction, but also increase the level of participation (process dimension)'
- 'Increasing the socio-political capability and access to resources needed to enhance rights to satisfaction of human needs and participation (empowerment dimension)'.

Bock argues that most definitions of SI have in common 'the basic idea of social innovation as a motor of change rooted in social collaboration and social learning, the response to unmet social needs as a desirable outcome, and society as the arena in which change should take place' (Bock, 2016: 555). Social innovations are social in terms of both their ends and their means; they create social value (Bosworth et al., 2016) in addition to or instead of an economic one. They can result in more effective community development through novel governance forms and support collective action, self-governance and political empowerment. According to Neumeier (2012: 55), SIs are: 'Changes of attitudes, behavior or perceptions of a group of people joined in a network of aligned interests that, in relation to the group's horizon of experiences, lead to new and important ways of collaborative action within the group and beyond'.

SIs differ from business innovation in that they target social value creation and actively promote inclusive relationships, whereas business innovations aim to improve the performance of a firm. However, sometimes SI and business innovation overlap since business innovations can generate benefits for parties other than the innovating firm. Some of the benefits spill over to other firms and the wider community. A social innovation is considered an implementation of a new idea with the potential to improve the quality of life, which may include aspects of education, social welfare and social cohesion, and environment quality (Pol and Ville, 2009). Community-driven SIs contribute to life satisfaction and happiness.

In this paper, we define the sphere of the concept of SI, the context, the actors of SI, and the process of SI as follows:

SIs are seen as community-driven innovations in the context of rural development. The fourth helix in the QH arrangement refers to local communities, which are often linked with different helices. They can have elements of company, public sector, or university helices, but are not purely isolated within those helices. Individuals in civil society can belong to other spheres in their working life (like teachers, civil servants, businesspeople, or workers) but in civil society, they are representatives of citizens and the fourth helix. Individuals are crucial because they link helices and communities as brokers. The drivers of SI vary and can include firms, municipalities, educational institutes, and local community organisations, but we focus on the role of communities in SI. The actors have different roles as initiators, designers or implementers of the process. Social innovation is a process that creates novel outcomes like new relationships.

We are interested in the role of sense of place in SI processes. Feelings of belonging and attachment to the place of residence influence the residents' preparedness to deal with problems caused by demographic and economic changes; however, such feelings also encourage those residents to innovate to create solutions that enhance the overall quality of life in rural residential places. The social needs and the activities undertaken in response to them are the drivers of SI. Bosworth et al. (2016) distinguish adaptive and creative responses. Adaptive SIs are driven by necessity and are the best available solutions to fill gaps caused by austerity politics. Creative SIs create social value driven by opportunities, and potentially have more transformative outcomes. In opportunity driven SI processes, extra-local actors might have an important role in rural development, which aligns with the neo-endogenous rural development model. This paper studies opportunity driven SI processes as empirical cases, which are seen as the condition for sustainable rural development.

Neumeier (2017) points out some of the success factors around SI. First, the size of the region matters: the smaller the region, the greater the potential to trigger a participation process. Actors in a small region generally have a stronger socio-emotional bond to the region itself than actors in a larger region, resulting in a stronger commitment. The second factor is the experience of common actions and collaboration. Social innovation processes are easier to initiate in rural areas where potential actors already have experience of participatory processes. It is difficult to promote local development in places with no history of collective action because such places have fewer social resources such as trust and social capital to call upon.

Neumeier (2017) outlines how the outcome of SI depends on the process. The act of participation and collective action in itself is viewed as producing new and intensified networks, in turn producing social capital, which will ultimately produce tangible outcomes. Neumeier (2017) therefore sees SI as *asset building* for the future. The idea is expanded upon by Rantamäki and Kattilakoski (2019: 339) who present two rural cases where cooperative action in village communities 'led them to find the identity they had once lost' and 'doing this in a way that contributes to the development of new social relationships and collaborations crossing the different sectoral and organisational boundaries and thus strengthening the sense of community'. One important aspect of SI is accordingly the strengthening (and even regeneration) of communities, both within localities and beyond. This is the essence of the

community-driven QH model, where SI processes both make use of and create communities within and between QH actors.

2.4 Linking SI and QH through community-based coordination

Our aim is to integrate the concept of (local) community with both the QH perspective and SI in rural areas. This effort is based on the recognition of how different social governance principles like *gesellschaft* (formal governance) and *gemeinschaft* (community) are used and combined in the formulation of successful SI networks.

Mayntz (2010) argues that community can be seen as a form of governance that may also include or be used in the context of markets, hierarchies and networks. Communities are based on individuals with shared convictions, values, or expertise. Communities are not necessarily local, they may be professions, scientific, or interest based. The coordination mechanism between individuals in a community is decisions made by equals. In this way, communities may be relevant within *gesellshaft* as one of several modes of social coordination (Mayntz, 2010).

Table 1. Coordination mechanisms of QH actors

Form of coordination	Market	Hierarchy	Network	Community
Coordination mechanism	Exchange	Command	Negotiation	Shared value, knowledge, or skill
QH actor	Firm	University Public organisation	University Public organisation Firm	Civil society University Public organisation Firm

A community may include for instance members of NGOs, teachers, civil servants, and businesspeople. They belong to different helices. In everyday life, they may follow the specific mechanisms of coordination within their helices, like market transactions, hierarchy and negotiation in networks. (Table 1). But community membership crossing borders between helices enables them to coordinate and align the organisations they are working in towards a common QH goal, a project supported by the community. This form of community-driven QH can be seen in terms of cooperation arenas (melting points) of governance principles that can be categorised into three institutional spheres: market, which has an exchange as coordinating mechanism; hierarchy having command as its coordinating mechanism; and network having negotiation as its coordinating mechanism. Both hierarchy and network are used as coordinating principles in public organisations and universities. These forms of different helices are

aligned towards the goal identified in the community, in this case a LEADER project. The case studies presented below show how this alignment and coordination are sometimes combined with community-driven coordination which is demonstrated in the case studies.. We argue that the community approach to QH assists the understanding of the orienting effect of shared values in communities, and that these are important for local, regional, and extra-regional interactions. Governance in QH terms may draw upon and combine market, hierarchy, networks, and community-based decision making in different ways. The QH model can be seen as an innovation cooperation model, which allows firms, universities, public organisations, and local communities to co-create in order to produce innovations. (Figure 2). The co-creation approach often starts with firms, and the role of civil society or community is marginalised. The analysis in this paper starts with local citizens and communities.

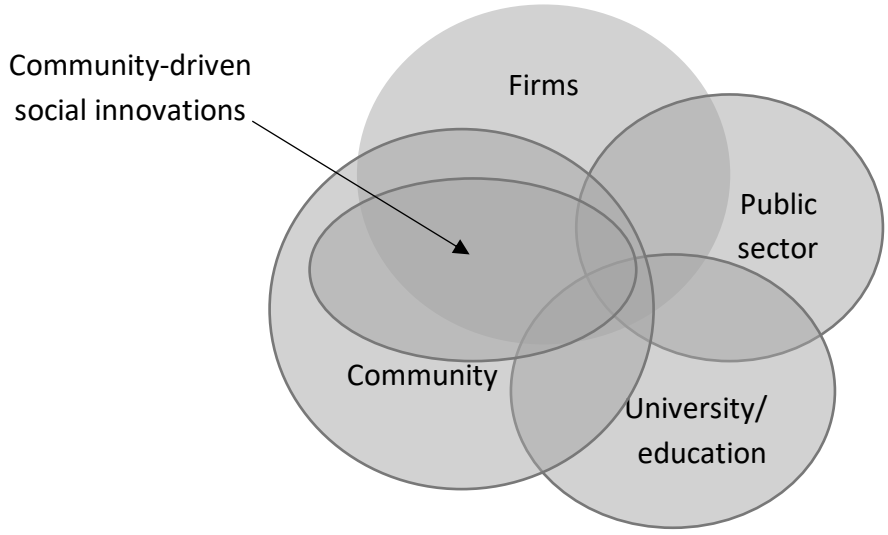

Figure 2. Community-driven QH model

Local communities might have local and lay knowledge, which should be identified and acquired. Members of these communities have knowledge of how these places function and how they relate to the wider world (Woods, 2007; Wellbrock et al., 2012). In the community-driven QH model, the role of local knowledge and expertise is crucial, and in successful cases, the local knowledge can be enriched through interaction with externally-acquired knowledge. This means local and non-local actors mobilising the local knowledge and the joint production of knowledge. Local communities have knowledge of local needs and resources but may at the same time lack the knowledge of how to unlock these resources or be obstructed by social circumstances that hamper movements for change. Practices that prioritise local needs can be globally ambitious and reflexive (Lowe et al., 2019). Nevertheless, expertise drawn from extra-local scientific, professional and regulatory knowledge must be adapted to specific contexts.

In this paper, we examine the role of communities in SIs by examining the characteristics of the social needs and SI processes, the involvement of different QH actors in the process, and new relationships as outcomes of the process.

3 Data and method

3.1 LEADER Aktion Österbotten and projects as SI processes

The empirical data consists of projects run under the LEADER programme, Aktion Österbotten (Finland). We have selected projects which can be defined as SI, in that they have created new networks or relationships in which actors from different helices cooperate. However, not every instance of networking or social learning results in SI. Successful SIs must be innovative with regard to the user, context or application (Neumeier, 2017). Moreover, we have attempted to ensure the sample reflects variation in terms of the ownership of the project and the QH actors involved, the type of activity, the success of project, and the geographical position in relation to regional centres. Accordingly, we selected five projects as potential representatives of SIs, and collected, processed and analysed the data on them using the narrative method.

Aktion Österbotten is a cooperation body of NGOs and other organisations responsible for LEADER activities in Ostrobothnia, in western Finland. The core of its activities is based on the local communities. In our cases, local communities are defined in accordance with the activity of the project. In some (mainly cases 2 and 3), the local communities correspond to the administrative borders of municipalities. In others (mainly cases 1, 4, and 5), local communities correspond to geographically defined areas such as villages. However, in most of the cases there is an interplay between individual villages and municipalities, which implies that the local community is understood as operating on two levels simultaneously. Aktion Österbotten aims to be an innovative bridge between cities and rural areas and to cooperate with other LEADER groups in Finland and abroad. Ostrobothnia consists of 14 municipalities, which are characterised by strong civil societies (represented by NGOs) and an entrepreneurial spirit. Part of the archipelago is designated a UNESCO World Heritage site. There are about 100 000 inhabitants, and the population is decreasing owing to migration from most of the rural municipalities, but some have a stable or growing population, especially near the cities of Vaasa and Jakobstad.

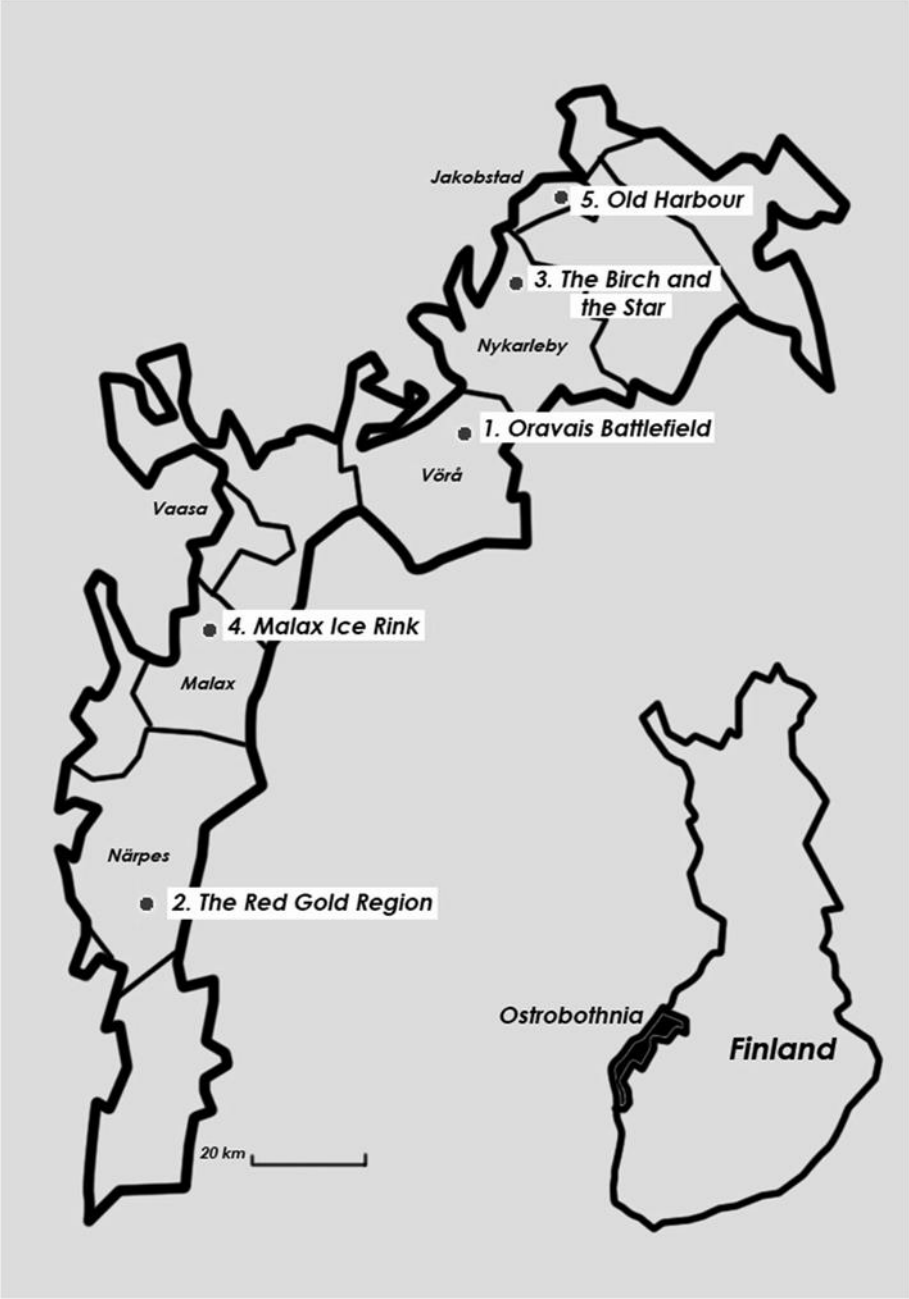

Figure 3. The activity area of Aktion Österbotten and the five case-study projects.

3.2 Learning history as a method of studying social innovations

We have collected and analysed the data on different phases of SI processes (LEADER projects) in QH arrangements with the help of a simplified application of the learning history method[1]. As shown below, this method reveals the interconnections between latent, community-driven forms of coordination and formalised processes of social innovation involving different QH actors and institutions. We used interviews with core actors to construct analytical narratives to identify the phases of specific SIs. Each informant may see and analyse the process from a unique perspective. By combining these diverse elements from different informants, the researcher is able to construct a narrative reflecting what has been occurring. A narrative is a means of analysing, presenting, and organising qualitative data in order to make it intelligible. It is a codification of what has been happening, an account of connected events, a story. Locating events within a meaningful story is one way of explaining them. Narratives are the principal means through which humans make their experiences meaningful both to themselves and to others (Polkingthorne, 1988). The narratives here are accounts of SIs with different phases and impacts. Narratives are used in explaining sequences of specific events over time, and in organising events and actions into a coherent whole by showing the connections between them and the ways in which these linkages combine to produce results or consequences. Specific events and actions in a sequence lead to a certain outcome, in the context of this article, for example, to SI in rural areas. A key element of a narrative is its *plot* or organising theme, which functions as the storyline or organising principle that gives meaning to events by showing how they are related to each other. Plots are not themselves part of the data but are introduced by the analyst; their status is akin to that of theories. They organise the chains of evidence and reasoning in support of an explanation while also showing why alternative explanations are unsatisfactory. Stories can be fragmented, flowing, emerging, and promote networking (Boje, 2001). Narrative explanations can never be final because new information may emerge that changes the understanding of events.

A particularly important aspect of narratives, based on the learning history methodology, is the identification of *critical incidents*, by which we mean an event revealing or illustrating some key relationships in relation to the SI and the QH actor network producing it. A critical incident normally consists of one of the activities of the actor network, which had some transformative effect, in other words an event leading to change, where it might be possible to relate something within the nature of the actor network to the outcomes (effects) of their activities. A critical incident can be, for instance, a decision to start operating a certain activity, which will implicitly or explicitly result in SI. Here, critical incidents consist of actors initiating cooperation across borders between helices. Critical incident analysis allows us to substantiate the actor network 'histories' and create intersections between different levels of analysis.

We interviewed the core group of people behind the SIs of selected projects through 12 interviews in spring 2019*,* distilled the data, and wrote overviews of the process behind the SI, its phases, critical incidents, and its impacts in terms of new relationships. The aim was to interview representatives of more than one helix engaged in the project. Project leaders were interviewed in all cases, and the

[1] The learning history method is used in organisational learning. It enables organisations to exploit knowledge on achievements created by individuals (Kleiner and Roth, 1996).

projects were covered by two or three interviews per project. Interviews were semi-structured and covered questions about initiative, drivers, actors and networks, aims, and results.

The interview data formed a basis for narratives constructed by the researchers. In order to create the narratives from the interview data we used the tools provided by the learning history method like plot, critical incidence, and achievement. We interpreted the projects' actions and events, and the way they resulted in particular achievements. In this way, we were able to discover the role of community in relation to other helices like universities, public government and firms.

The application of the narrative analysis in the operationalisation of the model of community-driven SI in a QH arrangement leads to the following disposition (Table 2):

- Achievements of the project
- A plot (a story line) organises the chains of evidence
- Narrative as meaningful experiences, connections between events and actions, and how they are combined to produce the result
- Critical incidence key event which exposes key relationships
- Role of community
- Current dynamics

Table 2. Narratives of LEADER projects as social innovations

1. Oravais battlefield (http://www.oravais1808.fi) Time period: Multiple LEADER projects 1995- to date	
Achievements	The site of a decisive battle between Russia and Sweden in 1808 in Oravais was unexploited until the 1990s. Over the last two decades, a QH network formed with two major large-scale events (dramatisation of the battle), a museum, and a restaurant.
Plot; community connecting QH actors in innovation networks	The core of the community is sharing of the story of the battle of 1808. It is local, national, and international (involving Russia and Sweden). The formation of the QH network started with LEADER support for the local association, research at the local university, and entrepreneurship.

Narrative	**Critical incident 1: NGO Oravais Historical Association supported by the public organisation: LEADER** In 1993, the non-profit Oravais Historical Association was formed, with the Ostrobothnian Regiment association as its cornerstone. Today, the association arranges events and services with the aim of bringing the history of the site to life. The association has since its inception had projects funded by the LEADER programme. Through these projects, the association has managed gradually to construct a historical milieu with old houses and historical accessories. One important element is the participation of the Ostrobothnian Regiment in the dramatisation of the battle at historical settings, and with appropriate equipment and costumes. The decisive activities were included two large events to mark the two hundredth and two hundred and tenth anniversaries of the battle which dramatised the battle, attracted thousands of visitors and brought the site to the attention of the public. **Critical incident 2: NGO asks university for support** In 2005, the association wanted to arrange a historical dinner, but lacked the gastronomical knowledge and therefore reached out to the University of Applied Sciences in Vaasa (vamk.fi), which trains chefs. This resulted in a student examination thesis, which researched old recipes, table settings, and dinner customs. **Critical incident 3: The student becomes entrepreneur** For the student involved, the work with the thesis triggered thoughts of developing a business model based on historical dinners. The association was at a point where both parties realised that it would be difficult to develop the area further relying only on voluntary work. From the outset, the entrepreneur and the association had the same objective, to get more people to visit the area. Both the association and the restaurant entrepreneur have for a long time wanted to be able to offer more kinds of professional services to customers. A current LEADER project aims at expanding the number of entrepreneurs involved in order to be able to offer more experiences and services.
Current dynamic	Both the association and the restaurant entrepreneur have for a long time wanted to be able to offer more kinds of professional services to customers. A current LEADER project aims at expanding the number of entrepreneurs involved in order to be able to offer more experiences and services.
Community	Shared value between the local association and the entrepreneur
Then what?	The Oravais Battlefield community has strong local support and a wide, but partly latent, transnational network in Sweden and Russia. Collaboration between the NGO, LEADER, and the university helped establish a museum and restaurant. Oravais is an emerging destination, with potential for further entrepreneurially driven growth.

2. The Red Gold Region (https://www.dynamonarpes.fi/sv/en-smakstart-röda-guldets-region)Time period: 2016–2018	
Achievements	The project aimed to create *a gastronomical region* based on the greenhouse sector. An inventory of local villages gave a unique picture of activities that had largely been hidden, but the project was not able to make use of the information directly and connect the greenhouse sector to other activities.
Plot; community connecting QH actors in innovation networks	The project worked directly with restaurants and other local entrepreneurs and accessed local knowledge but did not engage with greenhouse farmers or gastronomical tomato experts from other parts of the world.
Narrative	The small town of Närpes has been described as the centre for greenhouse farming in Finland. This industry and cluster have a Fordist character, focussing on large scale production of standardised products not oriented to niches and new kinds of products, which was something the project manager realised and consequently wanted to develop the brand of the region as a greenhouse centre. **Critical incident 1: The project was initiated by a local development agency** The project attempted to initiate the development of new products based mainly on tomatoes and cucumbers. Old local recipes were collated, and the project managers conducted discussions with local entrepreneurs, suggesting products to be developed, like tomato bread or tomato ice cream. **Critical incident 2: Reliance on local menus failed** The project developed 'lunch weeks' among the restaurants in the region, a schedule where two restaurants per week were the official Red Gold Region restaurants, serving dishes where local products were especially prominent. The project arranged 14 seminars in villages around Närpes, with the aim of introducing the Red Gold Region concept and identifying the strengths and potential of each village. One project manager argues that tomatoes and cucumbers is such a mundane part of life in the region, that it hardly sparks enthusiasm among locals. Some locals have even suggested that the region should try to find other sources to support a regional brand. **Critical incident 3: Limited local response** Response from food developers but not from local community.
Current dynamic	Spin offs (firms). Tomato flavour Ice cream and tomato bread.
Community	No shared values among QH actors.
Then what?	Attempts to diversify the Fordist production region with a strategy based on a public-organisation driven mobilisation of weak local traditions of using tomatoes failed.

3.The Birch and the Star in Nykarleby (https://www.nykarleby.fi/topelius/home) Time period: 2017-2018	
Achievements	The renowned 19th century author and historian Zacharias Topelius, writer of the children's tale *The Birch and the Star*, was born and raised in the small town of Nykarleby. The project raised awareness of the Topelius heritage as a potential that could be developed by arranging events, seminars and workshops. The events were successful, with many participants attending, and established a new local community.
Plot; communities connecting QH actors in innovation networks	The project leader discussed Topelius and the upcoming 200-year anniversary of his birth with a local politician and had the idea of a project promoting the heritage of Topelius in Nykarleby. The municipal manager supported the idea and suggested that the municipality could be the owner of the project. The project tapped into a largely hidden local engagement and interest in Topelius. Two organisations were especially important to the project. *Svenska litteratursällskapet*, a society for the study of Finnish-Swedish culture, contributed information on the life and work of Topelius. The educational institute Novia contributed with expertise in place branding.
Narrative	**Critical incident 1: The decision in the public sector** The suggestion of a Topelius project was timely, as the municipality had recently set up a working group that still lacked a specific agenda. The project manager pointed out that Aktion Österbotten was the most influential partner when the idea was developed, since it suggested place branding as a central concept. **Critical incident 2: Awaking the latent community** One aim was to inspire the development of Topelius-related products, and therefore, workshops directed at entrepreneurs were arranged. Two products were commercially successful: a Topelius beer and a makeover of the traditional Nykarleby Christmas star. Innovation workshops were arranged for village communities, from which hidden local histories of Topelius emerged. The project manager argues that the workshops and seminars succeeded in raising awareness of the Topelius heritage and a sense of pride and potential for development.
Current dynamic	The potential of Nykarleby as a tourist destination has been spotted, both internally through the realisation among people in Nykarleby that local characteristics may be developed, and externally, through the attention Topelius and Nykarleby received during the jubilee year.
Community	Shared value was discovered between different village communities and the municipality, as well as with a few entrepreneurs.
Then what?	The place branding is in a very early phase, and future development may go either way. The project manager sees the possibility of future LEADER projects to develop destinations and new products.

4. Malax ice rink (http://www.targahallen.fi) Time period: 2015-2016	
Achievements	The hockey club in the municipality of Malax had only one junior hockey team before the construction of the arena. In 2019, about one hundred 2–5 years old are registered with the club, and about 250 junior players, a senior male hockey team, and women's hockey and curling teams. The ice hockey arena project tapped into a large local demand for such activities, which was visible in an extensive fund-raising effort and thousands of voluntary working hours registered.
Plot; communities connecting QH actors in innovation networks	The locals desired an indoor ice rink for decades, while the municipal council refused to finance it. A group of people with connections to the local ice hockey club started fund-raising to secure private funding. The private initiative snowballed quickly into a success, which attracted state and LEADER assistance.
Narrative	**Critical incident 1: The municipality rejected funding the ice hall and citizens assumed responsibility** Investigations started into constructing the ice hockey arena with private resources. A joint stock company was formed since it enabled the deduction of value-added taxes. The first effort was to arrange fund-raising, where ice hockey club members went house-to-house in Malax and the surrounding villages. They succeeded in raising 120 000 euros from 1130 donors, of whom most were private individuals. **Critical incident 2: Entrepreneurship and state aid** The joint stock company was granted 330 000 euros in state aid by the Housing Finance and Development Centre of Finland (ARA). The remaining half a million euros was acquired through a bank loan with the municipality as guarantor. The budget did not stretch to building dressing rooms and showers in the arena. **Critical incident 3: LEADER support** The leader of the project discovered the LEADER programme as a possible funding source, and 18 months after the arena was finished, three dressing rooms, showers, toilets and storage rooms were constructed. The dressing rooms increased the attractiveness of the arena.
Current dynamic	The capacity in the form of ice time is used to its limits. The activities of the joint stock company are completely independent, financed by sponsors and by fees to use the arena.
Community	Shared value between ice hockey club and local community
Then what?	The ice hockey community in Finland is a powerful one with deep popular support and a sophisticated knowledge base, as shown by its hosting several world championships. Ice hockey teams are crucial to local pride and identity, and they need halls to start growing and recruiting young people. When the municipality failed to build an ice hockey arena, it was built through *talkoot* (non-paid, non-monetary voluntary work party) and private money. It also acquired crucial state and LEADER support.

5. **Old Harbour** in Jakobstad (https://www.gamla-hamn.fi) Time period: 2017-2019	
Achievements	The project arranged a series of workshops to which actors connected to the area including firms, civic organisations, municipality representatives, and citizens were invited. The workshops resulted in the formation of a civic association for the development of the area. The place-building activities of the project were thereafter largely driven by the association through the organisation of different kinds of events. The project also tapped into a demand for developing leisure activities, as well as tourism development. The project started to develop a tourist destination based on the history of the site. The project invited designers, writers, and media producers to develop logos, visitor maps, and a common web page. A new municipal area development plan was produced.
Plot; community connecting actors in innovation networks	The actors in the area have coexisted for decades but had very little cooperation with or knowledge about each other. Inhabitants were invited to join the new association, which responded to the need for a forum for local inhabitants. A company representative similarly describes the association as satisfying a need for coordinating interests and activities.
Narrative	Shipbuilding and shipping were fundamental for the seafaring town of Jakobstad. The old harbour area hosts two wooden ships with histories tied to the development of the town. **Critical incident 1: The Vega foundation invited Centria University of Applied Sciences (Centria.fi) to plan a development project** The Vega foundation wanted to build an exhibition hall for its ship and consulted the Centria University of Applied Sciences. Centria argued that an initial project needed to address the development of the whole district, since there was very little activity related to tourism, and no network of actors in place. Therefore, the project aimed at developing a common brand based on the history of shipping and shipbuilding. **Critical incident 2: Local actors realised the need to accept responsibility for the area's development** This realisation emerged amongst the participants during workshops and resulted in the formation of a civic association for the development of the district. The workshops brought a fundamental change in the mindset of the actors. There was some cooperation with other actors in the area prior to the project, but with the association, events and other activities 'are easier to scale up, since they can be steered and coordinated … it is possible to offer more activities to visitors'. **Critical incident 3: Awaking the latent community** The new association started organising events. At the first, local actors invited inhabitants into their facilities. The event was successful and attracted a large number of visitors. The actors realised that they are able to arrange attractive events, and that cooperation could facilitate the development of the area as a tourist destination. The project responded to a demand among the actors in the area and the residents in Jakobstad to develop the area.

Current dynamic	The Old Harbour association is continuing to arrange different kinds of public event. With the association in place, a multitude of new business ideas have surfaced.
Community	Shared value between local community, local companies, civic organisations and the municipality
Then what?	The Old Harbour association has had a good start and The Vega foundation is now aiming to deliver a flagship tourist attraction with national and international relations.

4 Social needs, ideas, processes, outcomes and impacts

The cases presented here depict how community coordination can enlarge the local community and connect it to the outside world, and combine coordination mechanisms of markets, hierarchies and networks, or indeed fail to do so. Table 3 presents how QH relationships reflect social needs in the cases. Needs are different, and so are the ideas responding to them. This leads to different types of network building.

The type of need and the origin of the idea influence network formation. Three of the projects originated with locals or local NGOs and two with the public sector. The projects were generally successful – only one of them had a weak response, the Red Gold Region (see Table 3). It is perhaps no coincidence that this is the project with the least direct involvement of locals in the idea-generating phase. The other public-organisation project, The Birch and the Star, garnered the involvement of knowledge institutions, but the response of the idea was not tested before it was launched. In hindsight, the strong community-based response looks like a happy accident. Nevertheless, the idea, place branding, found a suitable local adaptation that unlocked the relationship with the village communities. The project leader maintained close communication with the locals, which may explain the ability to find the right kind of local solution.

A significant difference between the two public-organisation cases is that the idea to meet the social needs (place branding using tomato farming and a historical figure respectively) resulted in different responses. It seems an intermediate step was necessary in the Red Gold Region case in order to bring greenhouse farming closer to the interest of the local community. The project had ambitions of developing culinary traditions, but the project was caught up in a too narrow endogenous strategy, where the opportunity to use advanced knowledge-based food production, as was done in the Oravais battlefield project, was missed. Owing to the weak response, new relationships were also weak.

Table 3. Processes of community-driven social innovations

Project	Social needs	Ideas to meet social needs	Initiative	Outcome	Impact
Oravais battlefield	More visibility in Finland and beyond, strengthen local community and identity	Highlight local history, historical restaurant, battlefield performances	NGO University Entrepreneur	Connection to other entrepreneurs and wider military-history community	Strong
Red Gold Region	Raise awareness of the image of the municipality with the help of tomatoes	Regional food culture, place branding Diversification from raw material to gastronomy	Municipality LEADER	Weak relationships	Weak
The Birch and the Star	Raising awareness of common heritage strengthen local community, develop business Visibility in Finland	Place branding, use of history, organising jubilee One big story connecting many local stories	Municipality University LEADER	Village associations, municipal working group and local entrepreneurs	Strong
Malax ice rink	Lack of sport facilities in the municipality	The way to organise financing, construction and maintenance	NGO State regulation	Local NGO and inhabitants, local community and wider hockey community	Strong
Old Harbour	Raise awareness of common heritage, increase visibility of area, develop business, strengthen local community	Highlight local history, place branding, new kind of civic association	NGO, University LEADER	Locals, entrepreneurs, municipality, entrepreneur network	Strong

The Malax ice rink project originated with local activity, and naturally, the local response was strong. In addition, local hockey enthusiasts were aware of the lack of hockey facilities in the sub-region, which

secured a strong response among the larger hockey community. The unlocking idea here was the setup of a joint stock company, which enabled tax breaks and unlocked support from the state funding agency.

With regard to the Old Harbour project, the local NGO had a clear picture of the potential of the area, but the unlocking idea originated from the university, which had experience of similar kinds of projects. The university contributors saw the need to elicit the realisation of a common interest among local inhabitants, entrepreneurs, and NGOs. The idea generation process, which resulted in a new local association, was carried out through discussions amongst the local actors, a procedure which also secured the local response. The project exhibited the broadest response of the investigated cases, reaching locals, entrepreneurs, and the municipality.

The Oravais battlefield in contrast to the other projects has been developing for decades, which has allowed the response to gradually grow. The initiative came from the local NGO and the idea was developed over a number of years, also involving the university and the future entrepreneur. In this way, the idea had strong local attachment, as well as an attachment to the wider military-history community, which secured a strong response within those communities. The idea was perhaps the most novel on a larger scale of the studied cases, especially the historical restaurant, which offered the potential to attract visitors from further afield.

These three last cases all brought about successful SIs, and a main reason seems to be that the idea prompted a response in large communities (hockey, military history, local inhabitants and entrepreneurs). The core of these communities is, in different ways, based on synergies between shared knowledge and emotional experiences.

The new relationships largely reflect the level of response to the idea. Impacts of community-based SIs emerge at different levels of community development. The military-history community in the Oravais case was able to unlock relationships to one entrepreneur and possibly others in the future. The case displays how the shared value of the community expanded from the local to the regional and to the international. Regarding *The Birch and the Star*, it was the idea of the common heritage that created a shared community between villages and the municipality. In this emerging case, the community may expand nationally and involve local entrepreneurs more widely in the future. The Malax ice rink project strengthened the inclusion of inhabitants in the local community, while the hockey community was expanded from the local to the regional. The Old Harbour project illustrates how the expertise of an educational institution may awaken a latent local community consisting of NGOs, entrepreneurs, locals and the municipality.

Social innovations may relate to and involve helices in different – but often-overlapping – ways, which strengthen the community and build the networks**.**

1. **Citizen-driven social innovation**. As illustrated in the cases of Oravais and Malax, local citizens working in close contact with strong communities and NGOs can initiate collective, economic projects on their own initiative that result in the creation of collective goods and development of

businesses. They may drive projects which also mobilise and make use of public funding and support.

2. **Educational institutes driving social innovations**. Communities and their NGOs may in various ways generate new resources and strength through contacts with schools and universities. Schools and universities may boost the shared knowledge at the core of the local community, make latent communities active, and open the network between the local community and the rest of the world (e.g., The Old Harbour, Oravais battlefield, The Birch and the Star).
3. **Firms driving SIs.** Strong SIs may at some point enable the establishment of firms, which may become more important in driving development and providing jobs as impacts. In these cases, synergies between continued community contributions and business operations are crucial. Communities provide participation and social activities, where people meet (e.g., Oravais and Malax).
4. **The role of** public organisations. Development policy can influence local strategies in particular, which is one of the success factors of SIs identified by Neumeier (2017). The public sector cannot create local communities which are not there. However, public organisations may spur initiatives, which help local citizens to discover and vitalise latent communities, help them to grow networks of innovation through relations with schools and other sources of ideas and inspiration, and in that way connect to national and transnational networks, which enables social activities and entrepreneurship, leading to job creation. The Birch and the Star is an example of this process, and LEADER as a development policy programme influenced both that and the Old Harbour project.

However, as illustrated by the case of the Red Gold Region, the alignment of helices driving innovations should not be assumed to necessarily establish a connectivity between local and wider, national or global communities, which is an implication of the neo-endogenous rural development process.

5 Final comments

The cases presented in this article were supported by the EU LEADER programme. LEADER has sustainable development in rural areas as an important overall objective. In order to achieve sustainability, LEADER promotes formation of new and vitalization of existing SI networks. Based on the cases, we have constructed a community-based rural development model, which explains the formation of SI networks consisting of QH as well as expansion of networks from local to national and international communities.

Community is seen as a principle of coordination based on the decisions between equals. Actors belonging to a community are equal with reference to a shared characteristic. We discovered that these shared characteristics may start with local identity, but they may well be extended beyond the local space, through communities of interest or expertise, such as sport, food culture, historical traditions and literature. In this way, SI networks emerging within communities may expand through space, from local to regional, national and global. We also found that communities enable coordination of SI networks

which cut across boundaries between coordination found in different helices, such as market and hierarchy.

In order to discover the processes driving community-based SI network coordination beyond the borders of local places and across different helices, we used the learning history method. A learning history is a stylized model of the process, constructed by the researcher, based on interviews with local informants. The learning history is identified as a sequence of events, who were involved, how did they do it, what was achieved. In particular, we focused on how the expanding innovation network was transformed through critical incidents, when new partners were included. In this way, we discovered first how local innovation networks were able to access participation from and make use of QH through connections between rural communities (villages or municipalities), communities of expertise in universities, public organisations, and business communities. Secondly, we discovered how this support from different helices enables community-based actors to access to support from partners beyond the local community.

These discoveries made it possible to construct a community-driven rural development model which consists of four elements:

1. The point of departure is vital local communities, and self-organisation around issues creating local identity like sport, historical places, industrial traditions and war history.

2. The second element is the creation of QH networks, involving firms, public sector actors, schools and universities. This is significant, because it enables the next step:

3. The third element is collaboration with regional, national and sometimes also transnational organizations and networks.

4. The fourth element is that this extension of SI networks creates self-reinforcing loops with expanding cultural activities, strengthening local community and local identity.

The model can be used to identify drivers, as well as different ways to connect and combine helices. It is relevant for understanding the variety of ways in which SI enables societal development in rural areas, or how and why SI initiatives may fail to do so.

The model outlined here complements both the QH and the rural development literature. Through SI and the community concept, the QH literature receives a much-needed structure for describing the involvement of the fourth helix in innovation systems. Similarly, the model demonstrates how SI processes through communities of common interest may awaken local rural communities, give structure to otherwise unorganised values and interests, and build relationships and thereby broaden the impact of local communities geographically and to other helices. The evolution of the process dimension and the critical incidents are crucial to the success of SI as the outcome. Our findings on the intertwining of process and outcome of SI as new relationships or a new way of collective action confirms the findings of

Dro and Therace (2011) and others (Neumeier, 2017; Bock, 2016; Moulaert, 2005). This understanding implies that empowerment and learning are both sources and outcomes of wellbeing.

In addition to contributing to both the SI and the QH literature on rural development, the paper contributes to method development in studying SIs. Our learning history approach using narratives and critical incidents reveals the structure of the process in a somewhat different way than Neumeier did (2012, 2017). The Neumeier phases are problematisation, expression of interest, delineation and coordination. This understanding does not take into account that the need should have active or latent community support. The network formation of SI depends on combinations of factors inside the local community, as well as outside, through other communities and new relations between helices. The learning history method opens up a route towards an understanding of long-term QH dynamics. By taking the QH dynamics between helices into consideration, we discover three dimensions:

Geography (going from local to global). Some local communities, such as local ice hockey enthusiasts and local people with knowledge of European military history, may draw strength from increased connections to national and international communities, sharing the same or similar types of knowledge, where different helices, public organisations, firms and educational institutions are involved.

Latent or pro-active (from latent to manifest). Some communities may be latent and hidden, as in the case of hidden local knowledge of literary, culinary, or historic traditions. Through the SI process, involving public organisations and educational institutions, these latent communities may become active, and create a high profile.

Organised (from informal to formal). Communities are in various ways supported by formal organisations, or NGOs. Some NGOs are the result of self-organisation, driven by citizens belonging to the community. Others are supported or initiated by public organisations.

The first phase suggested by Neumeier, problematisation, may be inspired by concepts like place branding, heritage et cetera, but the concepts should match the latent or explicit needs of the community. Instead of the expression of interest phase (as proposed in Neumeier, 2017), we emphasise the role of drivers to activate the visible or latent community through the creation, diffusion, and exploitation of knowledge. Different QH actors involved in the SI process (initiators, implementers and followers) and external actors and supporters play different and changing roles. By looking at the QH dynamic, we arrive at a different understanding from that signalled by the delineation and coordination phase proposed by Neumeier (2017).

There are still research gaps to be filled in terms of understanding how the latent potential for SI in rural communities may be discovered. Our findings indicate the significance of social activities, local identity and happiness among participants.

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