



Questioning the ‘periphery label’ in economic geography: Entrepreneurial Action and Innovation in South Estonia

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Abstract

Firm innovation is widely considered an effective means to facilitate and strengthen regional economic development, especially for cities and dynamic agglomerations. In turn, reduced innovation activities are regarded a critical element of missing economic dynamics in peripheral regions. Against this background, the paper offers a critical reading on how peripheral regions and their actors are typically portrayed in established accounts on the interconnections between innovation and space. Thereby, recent propositions to adopt more nuanced understandings that expand the prevailing ‘core region thinking’ are taken into account. The article provides two in-depth cases which explore innovation projects of firms located in peripheral Estonian regions. The analysis focuses on practices and strategies which these firms mobilize as part of their innovation activities. Findings reveal that firms actively involve diverse partners from multiple spatial scales, respond to structural constraints of local contexts and in several aspects even benefit from their location. Firms actively shape their own, distinct environments relevant for innovation, thereby mediating potential structural

constraints arising from peripheral contexts. In line with these findings, it is argued to adopt conceptual and methodological insights from relational thinking in economic geography more rigorously.

Keywords

Innovation; relational thinking; Estonia; economic geography; periphery

Introduction

The regional economic development gap between thriving metropolitan regions and regions with lower economic dynamics across and within countries in much of the world is widely acknowledged in academia (e.g. Iammarino et al., 2018; Rodríguez-Pose, 2018) and policy circles alike (e.g. World Bank, 2009; OECD, 2011; McCann and Ortega-Argilés, 2013). However, place-based policies designed to target regional economic development often focus on “the winning horse: the largest and most dynamic agglomerations” (Rodríguez-Pose, 2018:191), whereby existing gaps are further widened. Descriptions of cities as “our greatest invention” (Glaeser, 2011) and “innovation machines” (Florida et al., 2017) underline the belief that economic development and innovation are fundamentally urban phenomena (Shearmur, 2017).

This article critically examines spatially informed innovation discourses in economic geography. Theoretical and empirical accounts that identify lacking innovations as main drivers of economic peripheralization processes (Kühn, 2015) are not altogether questioned. However, we argue that the dichotomous image of thriving versus peripheral regions (re-)produced by established accounts reflects a substantially confined perspective. Analyses of peripheral regions are often influenced by ‘core region thinking’ (Isaksen and Sæther, 2015), implying constant comparison with mechanisms identified as best practice in core regions. Labels such as ‘less dynamic’ or ‘weakly developed’ assigned to localities are frequently expanded to actors and their economic practices. This expansion requires critical examination, in particular as a growing strand of research illustrates that peripheral regions are indeed sites in which actors frequently generate innovative outcomes (e.g. Fitjar and Rodríguez-Pose, 2011; Rodríguez-Pose and Fitjar, 2013; Grillitsch and Nilsson, 2015; Eder, 2018).

In the empirical part, we present results of research on firm innovation in South Estonia. South Estonia faces considerable challenges regarding economic performance and population decline compared to the Estonian average. Following the innovation biography approach (Butzin and Widmaier, 2016), we conducted qualitative interviews with firm representatives to explore specific innovation projects and associated practices and strategies through time and space. Our analysis demonstrates the capacity of firms to make use of different mechanisms to engage with diverse actors from multiple localities and highlights their ability to

overcome potential constraints of peripheral contexts. Based on these findings, we underline the need to extend and open established agglomeration-oriented perspectives in economic geography.

The article is organized around five main sections. In the second section, we re-visit theoretical foundations of innovation discourses in economic geography, which led to the confined/mainstream perspective on peripheral regions. Additionally, we discuss actor-centered and relational approaches to conceptually frame innovation activities in peripheral regions more coherently. In the third section, we present the methodological approach and provide information on regional context and cases. In the fourth section findings from micro-level investigations of innovation projects in South Estonia are presented. It is followed by a discussion of findings and concluding remarks in the last section.

Theoretical background: the geographies of innovation

In this section, we re-examine the theoretical foundations of innovation discourses in economic geography, particularly those in which the ‘spatialities’ of knowledge and interaction play a key conceptual role (Gertler, 2003), and show that the assumptions of territorial innovation models developed in the 1980s and 1990s (Moulaert and Sekia, 2003) led to a largely dichotomous representation of innovative thriving versus non-innovative peripheral regions (Isaksen and Sæther, 2015; Eder, 2018). This persistent ‘periphery label’ in the innovation discourse is related to emerging scholarship which contests the seemingly negative correlation between innovation and peripheral regions (e.g. Grillitsch and Nilsson, 2015; Shearmur and Doloreux, 2016). Framing innovation activities as processes involving dynamic and multi-local interactions allows us to better conceptualize innovation activities of actors not only in agglomerations, but also in peripheral regions.

Initial interests of economic geographers and regional scientists in innovation were fueled by indications that related activities seemed to concentrate in certain places, namely larger city-regions. Since the 1980s, such indications provided departure points to examine how geographical contexts determine and shape the ability of firms to generate new outcomes. By linking concepts of innovation and agglomeration, the propensity for innovation was considered to differ according to regional and structural characteristics (Moulaert and Sekia, 2003). The understanding is that dense settings, i.e. spatial concentrations of particular actors and functions, generate organizational thickness (Tödtling and Trippel, 2005) and favor the emergence of new developments. Main arguments for the spatial concentration of innovation activities also relate to knowledge and interaction grounded understandings (Chesbrough, 2003), and the differentiation between codified and tacit knowledge.

Codified knowledge, i.e. knowledge that can be shared through formal language and codes, such as blueprints or operating manuals, is typically

considered ubiquitous and rather easy to transfer over distance. Conversely, tacit knowledge, generated through learning by doing and cumulated experience, is primarily perceived a 'spatially sticky' resource, since it is bound to individual knowledge-holders and, accordingly, its transfer requires interaction (Gertler, 2003). Thus, the concentration of individuals and organizations favors processes of interactive learning and unintended knowledge spillovers, especially regarding the creation and exchange of tacit knowledge. Such accounts of interactive learning and tacit knowledge emphasize the role of the local scale and underscore the specific 'agglomeration arguments' in the discourse on knowledge, innovation and space (Ibert, 2007). Consequently, special emphasis is given to spillovers of tacit knowledge as geographically bounded phenomena, facilitated through the advantages arising from co-location and density.

Based on the logics of agglomeration and localized knowledge spillovers, conceptual models of dynamic regional economies have received broad attention in academia and policy circles. Territorial innovation models (TIMs) such as industrial districts, clusters, regional innovation systems, innovative milieu or learning regions highlight the role of geographical proximity between complementary economic actors. TIMs share a common perspective on space by focusing on processes that occur within specific territorial units (Moulaert and Sekia, 2003). Innovation, competitiveness and growth are seen as endogenously induced and essentially linked to the particular attributes of local and regional environments: e.g. the sectoral structure, actor density, localized networks and institutional arrangements (Lorentzen, 2008).

Agglomeration, TIMs and the periphery label

The 'periphery label' in innovation discourses primarily draws on findings developed in the tradition of TIMs. Typically, structural deficits of peripheral regions are contrasted with the benefits of their metropolitan counterparts. Thus, the notion of periphery is mostly determined through comparison of socio-spatial indicators with those of larger agglomerations (Lang, 2012). This comparison leads to an inherently negative connotation associated with peripheral regions. They are portrayed as less dense, less dynamic and, more generally, as lacking innovation capabilities. Structural 'disadvantages' are referred to in a number of interrelated aspects such as distance, density, networks and resources. Distance is considered both a spatial and relational condition, indicating isolation and insufficient accessibility to crucial resources. Distance indicates a state of being on the edge and outside of communication systems, growing regions, major markets and, ultimately, the hotspots of innovation and the core of contemporary knowledge economies (e.g. Copus et al., 2008; Rodríguez-Pose and Fitjar, 2013). Considering the spatial stickiness of innovation-relevant tacit knowledge, it is supposed that actors in peripheral regions benefit from knowledge diffusion only to a limited extent. Further, spatial distance and associated barriers to participate in knowledge diffusion are considered to (re-)produce relational distances (Terluin, 2003).

Density is closely related to the notion of distance, reflecting a related set of structural constraints. It is assumed that peripheral regions account for lower actor densities, resulting in organizational ‘thinness’ which is considered a central innovation barrier (Isaksen, 2001; Tödttling and Trippel, 2005). Thin environments are portrayed as having scarce resources, lacking a sufficiently developed critical mass of actors and support organizations, complementary technological sectors and dynamic clusters. Thereby, the absence of such key elements constituting effective regional innovation systems not only induces resource shortages, but also affects the effectiveness of localized networks (Onsager et al., 2007). Networks in peripheral regions are seen as weakly developed, perforated and fragmented compared to networks in thick environments (Terluin, 2003; Tödttling and Trippel, 2005; Onsager et al., 2007). From this perspective, localized networks in peripheral regions have only a limited potential for knowledge creation, collective learning and innovation. The perceived lack of resources has fueled descriptions of peripheral regions as ‘hostile environments’ for business development and innovation (Anderson et al., 2001).

These arguments contribute to a largely negative and persistent label of peripheral regions and their innovation capacities for at least two interrelated reasons. First, theories and concepts developed through research in metropolitan areas are applied to study innovation in peripheral regions. Thereby, negative impacts on innovation capacities of peripheral regions are often only inferred from the absence of certain mechanisms that have proven to be beneficial in core regions (e.g. local knowledge spillovers). This ‘core region thinking’ (Isaksen and Sæther, 2015:65) reflects in the dichotomous image of per se innovative agglomerations and non-innovative peripheries and induces generalizations that are often partial and misleading, thereby (re-)producing distinct ‘stylized fallacies’ (Hodge and Monk, 2004; Copus and Noguera, 2010). Second, arguments linked to structural constraints are often applied to actors and their economic practices (Anderson, 2000; Tödttling and Trippel, 2005; Fitjar and Rodríguez-Pose, 2011). Correspondingly, actors operating in peripheral environments are portrayed as lacking attitudes for innovation, entrepreneurship and firm expansion (Anderson et al., 2001; Isaksen, 2001; Terluin, 2003; Copus and Noguera, 2010). In case businesses from peripheral regions generate innovations, the outcomes are perceived as rather incremental and less significant (Asheim and Coenen, 2005).

Towards a better understanding of innovation in peripheral regions

As theoretical and methodological debates in the discourse on innovation and space have advanced, the continuation of a rather undifferentiated representation of peripheral regions and actors calls for critical examination (e.g. Shearmur et al., 2016; Eder, 2018). Since the 2000s, a shift from privileging configurations in geographical proximity to conceptions of innovation as processes involving dynamic and multi-local interactions has emerged in economic geography (e.g. Boschma, 2005; Crevoisier and Jeannerat, 2009). In particular,

TIMs have been criticized for reflecting an absolute understanding of space. Their regional reference units are framed as self-contained and territorially bounded entities of economic and socio-spatial coordination (Moulaert and Sekia, 2003). Lorentzen (2008), Crevoisier and Jeannerat (2009), and Ter Wal and Boschma (2011), among others, offer a critical overview on the central assumptions of TIMs. In response, relational perspectives, concerned with the diverse social relations between actors and how these relations shape economic processes (Bathelt and Glückler, 2003; Yeung, 2005), have widened the understanding of the interconnections between innovation and space. Relational conceptions of space and agency emphasize socio-economic practices and examine how social actions constitute and reproduce economic space (Jones and Murphy, 2011). As a result, examinations on the structural characteristics of regions move to the background. In this view, spaces and places do not constitute territorially bounded units but become contexts in which actors organize crossing and multi-scalar relations (Amin, 2004). Numerous empirical studies illustrate that firms' social relations and networks are typically not confined to pre-determined spaces or scales. Rather, processes of knowledge creation and circulation traverse and (re-)combine various scales (Lorentzen, 2008) and, thus, become territorially dynamic (Crevoisier and Jeannerat, 2009).

Based on the former conceptual contributions, the connection between innovation and agglomeration is being increasingly contested. The existence of an urban bias in innovation research has been articulated, for example by Shearmur (2012, 2017) regarding theoretical assumptions and the way innovation is empirically approached or by Huber (2012) who questions the argument of knowledge spillovers as being main benefits of cities and industrial clusters. Additionally, empirical research shows that innovation is not limited to cities and clusters but also occurs frequently in peripheral regions. A central question is how actors in such settings innovate given the interactive and knowledge-driven understanding of innovation processes (Shearmur, 2017). There are at least three interrelated factors which serve as analytical lenses in studies of innovation activities in peripheral settings: interaction behavior, (dis-)connection and mobility, and specific qualities and resources of peripheral settings.

Interaction behavior. Several studies emphasize the specificities of firms' collaboration and innovation networks. For the Swedish context, Grillitsch and Nilsson (2015) show that innovating firms in peripheral regions tend to collaborate more than firms located in larger agglomerations and in particular more with partners at the national level. These findings are echoed by Jakobsen and Lorentzen (2015) for firms from thin Norwegian regions. The authors find that interactions of firms from peripheral regions are more diverse, i.e. they target a broader variety of partners. In both studies findings are linked to the specifications of the regional environment from which firms operate, and it is argued that collaboration with extra-local partners can be considered a mechanism by which firms compensate for lacking local knowledge sourcing opportunities. Fitjar and Rodríguez-Pose (2011)

confirm these insights and show for the case of southwest Norway that collaboration with international partners is most conducive for innovation. If firms in peripheral regions seek to access and generate innovation relevant knowledge, they are urged to engage in collaborations that span across distance. In their study on the interaction patterns of creative entrepreneurs in Darwin, Australia, Gibson and Brennon-Horley (2016:246) highlight that firms “are forced to make do with less, to fan out and source materials and connections and utilize spaces that are on offer regardless of their location”.

While these studies suggest that firms from peripheral regions engage with external partners more frequently, it has also been shown that firms might have reduced interaction needs. Based on empirical findings from the Canadian Province of Quebec, Shearmur and Doloreux (2016) argue that firms outside urban areas primarily pursue innovation activities which, coupled with internal capacities, have lower interaction requirements and rely mostly on technical and scientific information. This finding suggests that firms align their innovation activities towards the specifications of environments, i.e. the limitations and opportunities these might induce. In a similar vein, Flåten et al. (2015) highlight that internal capacities, and in particular workplace learning, play a substantial role for non-urban innovators. Thus, high levels of internal capacities reduce firms’ interaction requirements. Also, it can be assumed that innovators in peripheral regions tend to target their collaboration partners more strategically (Shearmur, 2017) because they cannot rely much on informal, local exchange. Such purpose-built collaborations have been identified as dominant arrangements of partnerships operating at distance (Fitjar and Rodríguez-Pose, 2016). These contributions underpin that engaging in extra-local collaborations, no matter how frequent, can compensate for lacking local interaction opportunities.

(Dis-)connection and actor mobility. Repeating episodes of isolation followed by episodes of connection to actors and places, e.g. by travelling, can work as important means for knowledge access and creation. Analyzing the knowledge creation processes of innovative artists located in Finnish Lapland, Hautala (2015) stresses the importance of temporality in interactive knowledge creation. She finds that deliberate isolation is moderated by episodes in which actors seek interaction to source information and create knowledge. Referring to the creative sector of a small and remote Australian city, Gibson et al. (2010) illustrate how innovation is situated in multiple locations. Such deliberately organized episodes of connection and disconnection highlight on a more general level the role of actor mobility which acts as a central mechanism to organize geographical proximity when needed. As globalized knowledge economies involve increasingly high levels of mobility (Maskell et al., 2006), actors are frequently engaged in translocal knowledge dynamics, e.g. by travelling to access information and to meet partners. Recent studies suggest various formats by which translocal knowledge can be accessed, exchanged and generated. Firm participation in trade fairs, conferences and industry/community gatherings, frequent business travels,

translocal communities, digital networks and associations operate as effective elements of knowledge (re-)production and provide opportunities to establish new or strengthen existing linkages (e.g. Bathelt and Henn, 2014; Grabher and Ibert, 2014; Maskell, 2014). Such temporary formats might effectively support actors residing outside urban regions to boost their innovation activities. Importantly, most of these settings provide for face-to-face interaction which retains an indispensable role in the process of knowledge creation and innovation (Torre, 2008). Acknowledging the role of temporary proximity and mobility allows to further detach innovation and interactive knowledge creation from its spatially fixed dimension.

Qualities and resources of peripheral areas. Although the problem-centered narrative assumed by the periphery label largely neglects decisive qualities and resources peripheral regions may have, the state of geographical isolation itself might constitute a specific resource, e.g. by supporting creativity through independence from external trends (Gibson et al., 2010; Hautala, 2015). A certain "slowness" of processes, e.g. regarding direct market demands and product development, but also lower interaction frequencies with external partners might qualify peripheral regions as experimentation sites for ideas which can gradually mature and take loops in the absence of immediate commercialization pressures (Shearmur and Doloreux, 2016). Furthermore, it has been found that embedded local knowledge, practical knowhow and place-specific resources can foster innovations not possible elsewhere. Practices associated with traditions, cultural heritage and historical legacy, conventionally perceived obsolete or underdeveloped, can offer distinct assets and commercial opportunities. Anderson (2000) and Benneworth (2004) indicate that such place-specific traditions facilitate entrepreneurship in peripheral regions of the UK. As Gibson (2016) shows for the Texan boot industry, technical and social inheritances act as unique innovation resources and work in favor of peripheral regions rather than constituting inherited liabilities. He also shows that even in perceived lock-in situations, regions with specific skills, technologies, production methods etc. might provide qualities, precisely because they sustained modernization pressures.

From these accounts it can be concluded that the geography of innovation is in fact a fluid set of multiple and contingent geographies, constantly (re-)produced by spatially dispersed networks, workflows and resources (Gibson and Brennan-Horley, 2016; Faulconbridge, 2017). Notions of diverging interaction requirements, multi-scalar networks, mobility and temporary proximity as well as explicit regional qualities challenge the particular narrative of the periphery label. They imply that actor practices are not pre-determined by structural contexts. Rather, actors in peripheral settings have the capacity to act and to construct their very own (relational) environments needed for innovation. Such actor-centered perspectives on the diverse processes that constitute knowledge creation, learning and innovation allow to openly explore their diverse spatialities.

Methodology and research context

The cases we present here aim at complementing recent research on innovation in peripheral regions. Our approach follows the three analytical lenses discussed above and an actor-centered approach with a focus on concrete practices of knowledge creation. With few exceptions, e.g. on artists (Hautala, 2015) and the creative (Gibson et al., 2010) and manufacturing industries (Flåten et al., 2015), recent findings are mainly based on quantitative data. Our analysis is based on qualitative interviews with representatives of firms located in South Estonia. In particular, the interviews explored specific innovation projects and reconstructed associated development paths. Interviews with 13 individual companies were conducted during an extended fieldwork stay in Estonia (November 2015 – April 2016). These focal interviews were complemented with contextual interviews, e.g. with regional development experts. Methodologically, this study follows the innovation biographies approach (Butzin and Widmaier, 2016) which allows us to focus on the micro-level and to follow specific innovation projects through time and space. In addition, the micro-level perspective allows to explore actor practices directly and to capture the dynamics innovation projects involve. The case study region is composed of the Estonian counties of Põlvamaa, Võrumaa, Valgamaa and Viljandimaa (see Figure 1).



Figure 1: Overview on the case study area. Source: IfL 2017.

Table 1 indicates that, with reference to the Estonian average, these counties face substantial socio-economic challenges. Key indicators such as the development of GDP per capita and population signal substantial differences in the

dynamics of these regions compared to the Estonian average and especially the Tallinn agglomeration of Harjumaa. Furthermore, distance to main national centers suggests that economic actors can only to a limited extent benefit from agglomeration advantages.

Table 1: Socio-economic characteristics of the Estonian case study region

	GDP per capita (% of Estonian average)			Population development (in %)	Total Population
	2000	2010	2017	2000-2017	2017
Estonia	100	100	100	-5.8	1,315,635
Harjumaa (incl. Tallinn)	149.0	142.1	143.1	+8.7	582,509
Põlvamaa	56.0	47.5	41.9	-20.4	25,561
Võrumaa	57.4	56.5	48.7	-16.4	33,505
Valgamaa	54.2	51.5	62.1	-19.0	29,073
Viljandimaa	59.4	64.0	62.6	-19.7	47,288

Source: Statistics Estonia (2018).

The study relies on a multiple-case approach. Studying phenomena across multiple cases allows identifying differences and similarities, reduces the risk of chance associations and supports analytical generalization (Yin, 2014). Case identification and selection primarily drew on expert sampling and consultations of local media. The overall selection strategy followed main principles of variation sampling (Patton, 1990) and yields a sample for experimental testing which allows for some wider generalization. The empirical material presented in this contribution draws on two information-rich cases. The selected firms vary on dimensions such as size, age, location and industrial affiliation (see Table 2) and reflect the range of firms investigated as part of the wider study. Variation in cases ensures robustness of findings (Patton, 1990; Yin, 2014), even though the empirical material for this contribution was substantially reduced.

Table 2: Main characteristics of case firms

	Field of activity	Project	Place	Est.	Employees (2015)	Sales (t€, 2015/16)	Exports (% of sales)
Firm A	Manuf. of furniture	Development/marketing of new beds	Viljandi	2005	75	8,398	99
Firm B	Manuf. of food products	Development/marketing of birch sap	Misso	2015	2	<80	≈30

Source: Elaborated by authors based on research data.

Empirical results

Firm A

Firm A is the Estonian production site of a Stockholm-based bed manufacturer. It was established in 2005 in Viljandi, a county capital with a population of about 17,500 inhabitants. Historically, Viljandi has been a center of the furniture industry and still hosts multiple furniture manufacturers and related businesses. The investigated project relates to the development of a bed that allows to flexibly adjust the firmness of the mattress. Although not entirely new to the market, Firm A has previously not been active in this segment.

In autumn 2014, the Stockholm headquarters received an external request from a Norwegian retailer for developing and producing the adjustable bed. This initial request facilitated intense consultations between the sales/marketing department (Stockholm) and the production unit (Viljandi) and resulted in the decision to launch the development phase. The first project phase concerned elaborations on how to implement the technical design features formulated by the customer. It involved iterations of component production to accommodate the adjustable firmness function (e.g. fittings, wood components, electrical engine). Firm A typically develops new components based on existing ones, so it was able to mobilize its established supplier network. According to the production manager, sample production involved both intense contact with part suppliers and internal coordination across departments. For sample production, Firm A activated existing linkages but also established new links to regional partners by mobilizing personal relations:

For changing the fittings we have a really good local welding guy at hand, a good friend of mine. The first thing we try is to do everything locally. "...". If you have some local guy you just drive there, it takes 20 minutes, he makes it right away. You go back to check if it works or not. And this kind of partners also think with you, provides own ideas. (Interview with technical manager, Viljandi, 14 January 2016)

Once technical specifications of final components were determined, large-scale producers were involved. During this early project phase, lasting for about six weeks, certain technical issues occurred. Ongoing consultation between production and sales departments resulted in the decision to terminate the project as the adjustable firmness function could not be aligned with required technical design features. However, insights from the terminated external project triggered the launch of a new, firm-internal project. The initial idea to develop an adjustable firmness bed was retained while technical features were adapted: "From the initial project we got the input that we can produce adjustable firmness beds, but the bed design was totally different" (Interview with technical manager, Viljandi, 14 January 2016). Consequently, a second sample production loop was started, again primarily with regional partners. Based on close coordination with the Stockholm

headquarters, involving frequent project meetings in Viljandi, a prototype was developed and exhibited at a leading international trade fair in Germany. An overall goal of the trade fair exhibition was to observe market reactions and, ultimately, to incorporate changes based on direct feedback. As component development with regional partners was finalized, main suppliers were involved for manufacturing components in large quantities:

In this sense, a small producer can't be compared with a bigger one "...". We need to get the component price down. "...". Usually, we try to take our components, change them and use them for new products. And then we go back to our main suppliers and tell them what needs changing. (Interview with technical manager, Viljandi, 14 January 2016)

In May 2016 the first functional bed was produced and marketing activities gradually launched. At the same time, multiple sub-projects were started, which, building on the initial platform bed, targeted different market segments such as the hotel industry. Figure 2 provides a visual overview on the innovation project, including processes/events, partners and spatial scales involved.

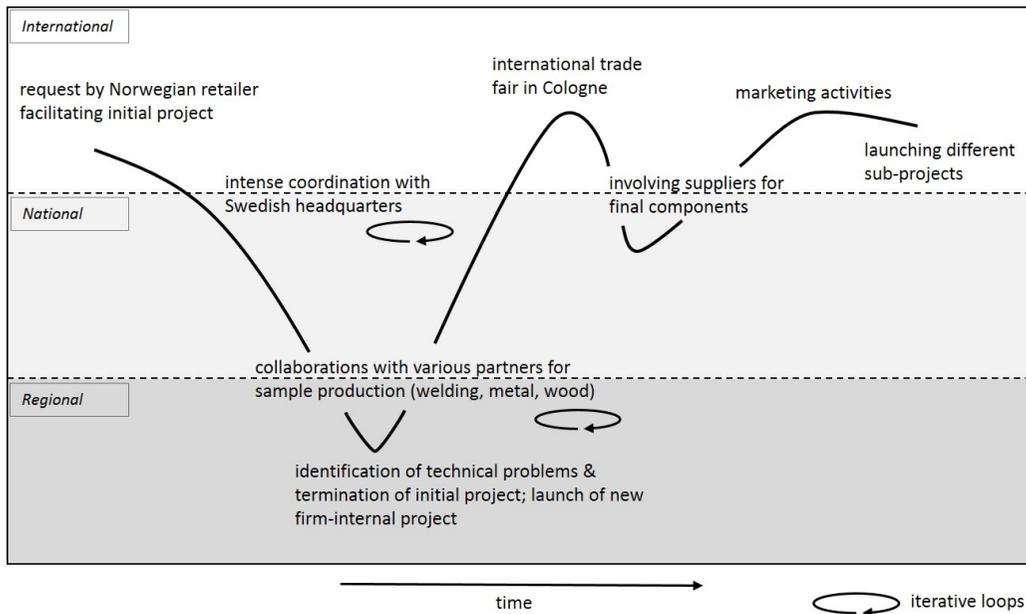


Figure 2: Event structure map of Firm A’s innovation project. Elaborated by authors.

Firm B

Firm B was established in October 2015 and is located in Misso, a village with 800 inhabitants. Although being a newly established venture, the company has

its origin in a dairy processing farm established in 1998.¹ Firm B produces, processes and markets birch sap. Birch sap is a traditional beverage in Baltic and Nordic states and becoming increasingly popular internationally, especially in health-related product markets (EIP-AGRI, 2016). Consequently, Firm B strategically targets international markets.

At the end of 2014, the dairy received a request by a German importer for producing birch sap on a larger scale. This request sparked a process which led to the decision to access international markets and to establish a new sap venture. A local partner became co-owner of the new business and provided financial support. To position birch sap in international health markets and to ensure higher margins, the raw material was organically certified in February 2016. Alongside ongoing negotiations with international clients, collaboration with a research partner from Tallinn University, specialized in food and fermentation technology, commenced. Previously existing links between the dairy and the research partner were re-activated. Although the birch sap project involved different researchers, pre-existing contact was considered essential to facilitate fruitful exchange. Initial activities focused on analyses to determine biochemical properties of birch sap. Besides providing analytical results, partners at the research center coordinated a grant application to access innovation funds. This collaboration paved the ground for strategic follow-up projects, involving a more substantial grant application, again administered by the research center.²

Birch sap was first collected on a larger scale in 2016. This harvest required some crucial up-front arrangements and investments. A local partner, specialized in food processing, was approached to handle activities related to freezing and packaging. Since the target amount of 130 tons exceeded own capacities, local, previously known partners were involved in sap collection. Throughout the path of the birch sap project, Firm B attended several trade fairs. While exhibiting at Tallinn Food Fair, contact to a firm specialized in manufacturing organic food and beverages located in South Estonia was initiated. This cooperation resulted in the development of differently flavored soft drinks based on birch sap that became available in March 2016. This collaboration was considered crucial in a number of ways: it facilitated product development and constituted an essential strategic step to penetrate foreign markets with own, final retail products:

It is more profitable for us to sell final products than raw material "...", which is why we try to develop different products at the same

¹ In 2015 the dairy had 11 employees and sales of 800,000€ (information collected during interviews).

² Activities were funded via Enterprise Estonia (EAS) under the product development scheme: an 'innovation voucher', worth 5,000€, and a 'development voucher', worth 25,000€ (information collected during interviews).

time. Maybe next year we will sell all the birch sap we have as our final product and not just as raw sap. This is our aim. (Interview with company owner, Misso, 2 February 2016)

Thus, attending international fairs became increasingly important. During fairs in Amsterdam (May 2016) and Nuremberg (November 2016) new contacts to sales partners were established and existing partners met. While fairs were initially attended as visitors to distribute product samples and to generate sales contacts, Firm B seeks to eventually exhibit at certain fairs. Further channels used to generate international visibility are internet-related activities (website, blogging) and the establishment of the “Estonian Birch Sap Association”, which aims to bundle and coordinate export activities of Estonian sap collectors. The circumstance that birch sap is a fairly new product is considered a challenge inducing uncertainties regarding price and contract negotiation. However, at the same time it facilitates organizational learning:

Contracts are a problem. Birch sap is a new product for all partners involved. They don’t know the right prices yet. The export partners don’t know much about birch sap, they simply want to have it. "...". So we also have to think for them. But I am sure we all will have more understanding next year. (Interview with company owner, Misso, 2 February 2016)

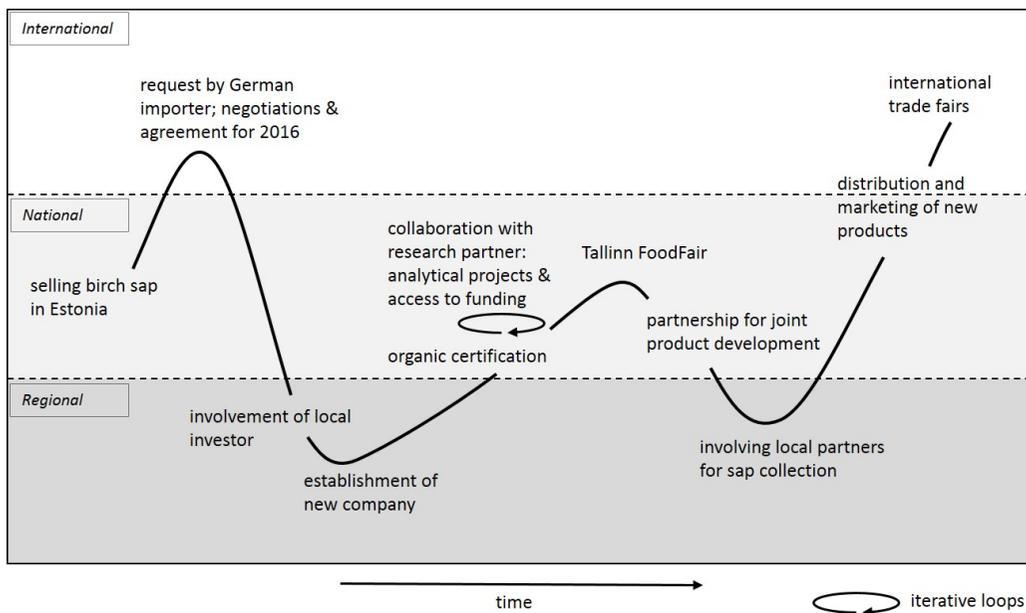


Figure 3: Event structure map of Firm B's innovation project. Elaborated by authors.

Key findings

In both cases external requests acted as crucial innovation stimuli and facilitated creative processes actively shaped and coordinated by firms, yielding in innovative outcomes and organizational learning. Mobilizing previously existing and purposefully constructing new relations to external actors, thereby complementing internal capacities, facilitated these innovation processes. Each of the investigated projects draws on specific network constellations and integrated diverse actors such as suppliers, customers and research institutions into knowledge creation processes.

Previous joint activities between actors operate as facilitating factors in this respect, easing cooperation through mutual understanding and established routines. After determining technical specifications of components through iterative processes with regional partners, Firm A switched to its established (inter-)national supplier network, benefiting from previous cooperation. Similarly, Firm B turned towards an Estonian research institute which is, based on previous collaboration, a preferred partner to perform analytical tasks and to provide effective consultation. Trust amongst collaboration partners constitutes a crucial element to successfully perform innovation projects and to balance associated risks and uncertainties. In this context, mobilizing personal and friendship ties takes on a critical function. To flexibly produce and adapt samples, the technical manager of Firm A activated friendship ties through which small local firms were involved into the project. Likewise, Firm B involved a “friend to the family” into the strategy formation process of the new venture who, subsequently, also became an investor. Established trust also played a key role when engaging external sap collectors.

With regards to identifying new, complementary collaborations partners, strategic considerations and purposeful search-processes are of major importance. To internationalize its business, Firm B established new links to a number of regional partners. Activities regarding raw sap processing were outsourced to a specialized regional firm. To develop a range of sap based soft drinks, a collaboration with a regional beverage manufacturer reflects a more reciprocal, yet still purposefully activated partnership. Linked to the long-term goal to supply final products rather than raw sap, this collaboration takes on a crucial role regarding strategic business development. These indications suggest that innovators from peripheral regions extend informal and personal ties into the business sphere and purposefully target existing and potential partners – a finding which confirms previous research in other regional contexts (e.g. Fitjar and Rodriguez-Pose, 2016).

Another related aspect in the development trajectories of both projects is the important role of international trade fairs. Firm B’s participation in Tallinn Food Fair paved the way for collaborative product development. Contact to the development partner was initiated during the fair, which provided a temporary, supportive interaction environment for specialized actors from within the food industry. Later on, firm B used trade fairs as platforms to push forward marketing

activities, to build international product visibility and to generate new sales contacts. Similarly, Firm A exhibited its first prototype at a leading international furniture fair in Germany, seeking direct feedback from a variety of market actors – a particular feature of trade fairs that has been frequently identified as supporting innovation (e.g. Bathelt and Schuldt, 2008). Besides the specific format of trade fairs, the cases illustrate more generally the importance of actor mobility. Mobility relates for instance to frequent business travel to meet and exchange with spatially dispersed partners. In this sense, both cases illustrate that firms from peripheral regions interact at different spatial scales (Grillitsch and Trippel, 2014) and, thereby, temporarily overcome distance and isolation. Thus, the investigated projects reflect distinct, multi-local as well as fluid and mobile geographies of innovation.

Conclusions: revisiting the 'periphery label' perspective

According to socio-economic indicators and structural features, the South Estonian study region can be characterized as being distant to main centers, actor thin and scarce of innovation-relevant resources. These characteristics usually lead to assumptions of regional networks that are rather fragmented and, thus, offer only limited scope for innovation activities (e.g. Isaksen, 2001; Tödting and Trippel, 2005).

The actor-centered approach of this contribution allows to reflect on innovation-related practices and, thereby, to re-examine prevailing narratives. The cases discussed demonstrate that local and regional environments of peripheral regions may account for specific resources and distinct qualities. By establishing and internationally expanding its birch sap business, Firm B draws on locally available natural resources and creatively adapts its particular traditional and cultural embedding to contemporary demands. This embedding allows to involve local collectors familiar with associated traditions and collection routines. Similarly, Firm A mobilizes practical furniture-related knowledge available within the region. Likewise, activities related to metal manufacturing were and still are important economic activities. Firm A is capable to flexibly mobilize this locally embedded practical knowledge to drive its own innovation endeavors. In addition, activating personal networks is a particular practice through which firms access resources such as practical expertise and consultation as well as finance. Activating social ties and transforming these into business-related assets strengthens innovation capacity. Conversely, distance to main markets is a central problem firms are confronted with since managing spatial distance induces higher transaction costs, for instance in terms of logistics. However, when collaborating with dispersed partners, actor mobility and the use of modern communication technologies function as effective means to manage distance.

The often implicit expansion of the periphery label from socio-spatial attributes to actors induces too easily associations of passive actors lacking attitudes for innovation and entrepreneurship (e.g. Anderson et al., 2001; Terluin, 2003; Copus and Noguera, 2010). The cases presented in this contribution provide

a narrative that illustrates ambition and entrepreneurial spirit, as actors proactively shape and exploit arising opportunities. Firms strategically acted upon external requests and transformed them into processes and outcomes with broader impact. Passive responses of Firm B would have resulted in long-term contracts to supply raw birch sap to European importers. Instead, with the intention of supplying higher value products to emerging international markets, own retail products were developed and actively promoted through various marketing channels (e.g. trade fair visits, Estonian Birch Sap Association). Likewise, passive behavior of Firm A would have resulted in terminating development activities after the initial project failed. However, the knowledge accumulated during this process was subsequently transformed into a new project, ultimately opening new market segments.

This reflection suggests that the particular problem-centered narrative of the periphery label does not necessarily match actor practices and perceptions. Coupled with the finding that innovative firms from peripheral regions use different mechanisms to engage heterogeneous partners on multiple scales, our analysis suggests that actors are capable of overcoming certain constraints imposed by peripheral environments and might even benefit from distinct qualities of these environments. However, we are neither proposing to neglect the restricting implications thin socio-structural environments have on economic practices and, thereby, to ascribe too much power to entrepreneurial agency (Plüschke-Altöf and Grootens, 2019), nor that all firms in peripheral regions are equally capable to construct suitable relational environments. While such structural deficiencies need to be addressed by regional innovation and infrastructural policy, we encourage to complement investigations primarily focusing on socio-structural characteristics of regional settings with analyses of actor practices. Then, theoretical concepts from relational thinking find more rigorous application beyond the prevailing ‘core region thinking’ (Isaksen and Sæther, 2015) and support methodological pluralism within the field. While relational thought has an established tradition in economic geography, it has primarily informed research on core regions and often bypassed research on peripheral regions. Its more rigorous application in research on peripheral regions would facilitate open explorations of spatial contexts as elements and resources upon which actors organize economic action (Amin, 2004; Jones and Murphy, 2011). Thereby, a more critical reflection on the often implicit assumptions that (re-)produce the pervasive dichotomy between innovative cores and non-innovative peripheries can be achieved. Further empirical investigations are needed to gain more elaborate insights on how actors from peripheral regions organize innovation activities. Such empirical studies would undoubtedly help to add a more profound layer to our understandings on the geographies of innovation.

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