

Clusters' Vital Role in Promoting International Competitive Advantage - Towards an Explanatory Model of Regional Growth

Aihie Osarenkhoe*, Daniella Fjellström*

ABSTRACT: This work responds to calls to expand the study of inter-firm relationships beyond the narrow dyadic relationship focus and sole concentration on conceptualizing collaborations as firms' strategic intent to implement mechanistic growth strategy. The objective is to map the salient features of existing clusters and how firms perceive the benefits of clusters by asking: How are the collaborative networks of private and public partnerships organized to enhance the competitiveness of all the stakeholders in a cluster? And how do these actors perceive the usefulness of clustering? The theoretical lens builds on viewing cluster initiatives as an interactive learning process and something that occurs in the interaction between actors as competitiveness is born through reshuffling resources both inside and outside of the firm, and takes into account value creation. The methodology draws on focus groups and surveys conducted in Swedish clusters. The findings show the perceived benefits of cluster initiatives to be networking, dialogue and experience exchange. The implications are that the relationships firms form in a cluster constitute critical avenues for acquiring resources and knowledge to enhance competitiveness, and bridges to other clusters in other countries. An explanatory model of clusters and regional competitiveness that emerged from our findings is presented.

JEL Classification: F20; L20; M10; O40; R10.

Keywords: clusters; networking; international competitiveness; strategic network; open innovation.

El rol fundamental de los clúster en la promoción de la ventaja competitiva internacional - hacia un modelo explicativo del crecimiento regional

RESUMEN: Este trabajo responde a las llamadas para expandir el estudio de las relaciones entre empresas más allá del foco estrecho centrado en relaciones diádicas y la concentración únicamente en conceptualizar las colaboraciones como

* University of Gävle, Department of Business & Economic Studies, Gävle, Sweden.

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meros intentos estratégicos de las empresas para implementar estrategias de crecimiento. El objetivo es mapear las características más sobresalientes de los clúster existentes y la forma en que las empresas perciben los beneficios de los clúster mediante las siguientes preguntas: ¿cómo son las redes colaborativas de socios privados y públicos que se organizan para mejorar la competitividad de los grupos de interés en el clúster? Y, ¿cómo perciben esos actores la utilidad del trabajo en red en el clúster (*clustering*)? El enfoque teórico se elabora sobre la visión de las iniciativas clúster como procesos de aprendizaje interactivo y como algo que ocurre en la interacción entre actores cuando la competitividad nace a través de la reorganización de recursos tanto dentro como fuera de la empresa, y tiene en cuenta la creación de valor. La metodología se basa en sesiones de grupo orientadas y encuestas pasadas a clúster suecos. Los hallazgos muestran que los principales beneficios percibidos de las iniciativas clúster son el trabajo en red, el diálogo y el intercambio de experiencia. Las implicaciones son que las relaciones que las empresas forman en un clúster constituyen medios fundamentales para adquirir recursos y conocimiento que mejora la competitividad, y que se extiende a otros clúster en otros países. Se presenta un modelo explicativo de la competitividad de los clúster y de las regiones.

Clasificación JEL: F20; L20; M10; O40; R10.

Palabras clave: clúster; trabajo en red; competitividad internacional; red estratégica; innovación abierta.

1. Introduction

In following with the scope of the call for papers for this special issue on clustering, we align the focus of this paper accordingly. Thus, the central element of clustering—the geographic agglomeration of firms and activities, informed by a multidisciplinary and/or network perspective—constitutes the point of departure of the paper. The reason for this approach is that, in today’s globalized world, local contexts and clusters are becoming an integral source of international competitive advantage. Cluster initiatives provide a setting for companies (SMEs, MNEs, etc.) to interact effectively with each other and with other institutions, to work together and learn. The theoretical lens for this paper therefore builds on clusters (Porter, 2000), i.e. the growth of contacts within an industry that necessitates new ways of collaborating and cooperating. Because a cluster initiative is a strategic attempt to create awareness and knowledge, we use strategic network theory as a way of describing cluster initiatives that is less connected to economic geography and more connected to network theory, where the exchange of resources is in focus. Clustering is an interactive learning process, and occurs in the interaction between actors as open innovation postulates (Chesbrough, 2003; Chesbrough *et al.*, 2006).

The extant literature stresses that having a foreign market presence is imperative for most firms these days (Auwah, Osarenkhoe and Abraha, 2011). It is particularly vital for small and medium enterprises (SMEs), which are increasingly considered

an important, though neglected, research field despite SMEs being considered the engine of a country's economic growth (Sawers *et al.*, 2008; Zeng *et al.*, 2010; Sami Sultan, 2014; Resnick *et al.*, 2016). Because they represent the majority of economic structures and are the main employers of a country, SMEs attract the interest of policy-makers (Tödtling and Trippel, 2008; Solleiro and Gaona, 2012). According to Hossain and Kauranen (2016), SMEs have the ability to react and adapt faster to changing needs and the environment, and they argue that successful development of these enterprises enhances the competitiveness of a country.

Against this background, it is therefore paradoxical that «little is known about the conditions under which SMEs may be able to achieve growth when facing specific constraints. For example, it has been argued that SMEs could enter into coalitions with external organizations in order to obtain resources and information» (Hessels and Parker, 2013, p. 1). Furthermore, Costa *et al.* (2016, p. 1) argue that the current literature is «unclear about the way SMEs can access information and assimilate knowledge in a collaborative network context, to support decision-making,» going on to state that it does not clarify «how SMEs assimilate information from their networks and collaboration activities for making better decisions in terms of internationalization» (Ibid.). Thus, firms are left reeling from discontinuities created by a growing level of globalization, heightened volatility, hypercompetition, demographic changes, and the explosion of knowledge (Tödtling and Trippel, 2008; Ter Wal and Boschma, 2011). Ever-faster means of communication alter today's business climate and it is becoming more evident every day that we cannot anticipate the environment of tomorrow. This paradox highlights the importance of SMEs in the global economy, while current research discusses the shortcomings of in-depth and detailed knowledge of how SMEs interact with their surroundings.

It is evident from this scenario that the globalization process and benefits accrued from global market opportunities, and «pushing the companies to develop and adopt a proactive international approach in order to take advantage of the new situation» (Portero, Hervás-Oliver and Puig, 2012, p. 266) have given rise to two main challenges currently faced by SMEs: firstly, to transform themselves and increase their individual competitiveness (Fassoula, 2006, cited in Karaev *et al.*, 2007); and, secondly, due to their limited size, to take advantage of synergy effects created by entering into cluster initiatives, cooperative relationships with other SMEs and related partner institutions. Hence, an increased interest in regional development among policy-makers is spurred by an upsurge of interest in regional issues on the part of researchers, which is manifested in greater attention to the cluster concept and the somewhat overlapping concept of industrial districts (Johanson and Lundberg, 2011).

A perspective that has gained impact in recent years is that which is based on so-called «open innovation» (Chesbrough, 2003). Chesbrough *et al.* (2006, p. 1) define open innovation as «the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and to expand the markets for external use of innovation, respectively». Open innovation requires much more interaction between different actors with different organizational cultures: large firms and SMEs (i.e. industry),

universities and research institutions (i.e. academia), as well as national and regional authorities to build the legal or incentive framework of innovation (i.e. government) (Lecler *et al.*, 2015).

Extant literature (e.g. de Vrande *et al.*, 2006) also calls for open innovation to not be studied solely from the perspectives of large, high-tech multinational enterprises (MNEs), as is most commonly done (e.g. Chesbrough, 2003). Rather, the scope of study should be broadened to capture SMEs in general, and services industries in particular. Although the flexibility of SMEs is seen as an advantage for accelerating their innovation, few SMEs succeed in managing the whole innovation process on their own, to turn their inventions into products or services. They often lack resources and capabilities (Antoldi *et al.*, 2011; Cerrato and Depperu, 2011; Coviello and McAuley, 1999; Crick and Spence, 2005) at the stages of manufacturing, distribution, promotion and research funding, which leads them to cooperate with other firms to reduce the risks, cost and time required for innovation, as well as to gain access to sales and marketing networks during the last stages of the innovation process.

Clustering and networking help SMEs to improve competitiveness (Venkataramanaiah and Parashar, 2007). However, while networking is viewed as vital for enterprises of all sizes (Ojala, 2009; Kontinen and Ojala, 2011), clusters alone cannot solve the complex problems and constraints encountered by SMEs, nor break the vicious cycle of SMEs' competitiveness (Dasanayaka and Sardana, 2010). Formulation of a firm's strategic intent is a unilateral process solely confined to a single firm (Driffield and Love, 2007). This study is a response to calls made in Osarenkhoe (2010) and Awuah *et al.* (2011), Hessels and Parker (2013) and Costa *et al.* (2016), to expand the study of inter-firm relationships beyond the narrow dyadic relationship focus and sole concentration on conceptualizing collaborations as firms' strategic intent to implement mechanistic growth strategy.

This paper highlights the importance of interaction within and between society's stakeholders and how different forms of cluster initiatives can contribute to long-term value creation that strengthens companies' competitiveness at the domestic level as well as in international contexts. More succinctly, mapping of the salient features of existing clusters and unveiling firms' perceptions of benefits accrued from regional clusters is the first step in a cluster development process. To accomplish this overarching objective, the following research question is formulated: How are the collaborative networks of private and public partnerships organized to enhance the competitiveness of all of the stakeholders in a cluster? And how do these actors' perceive the usefulness of clustering?

Following this section, the paper proceeds with a presentation of the theoretical underpinnings, consisting of a review of literature that views markets as organized behaviour systems, manifesting network structures and clusters, made up of components with varying characteristics, that interact with each other in a systemic way. After that, comes the methodology section, and thereafter a presentation and discussion of the case study. We then present an explanatory model of cluster and regional

competitiveness that emerged from our findings, and close with concluding remarks and a discussion of the implications of the study.

2. Theoretical underpinnings

The transformation from industrial society to information and service society, accompanied by great economic, political and social globalization, constitutes an important platform for ideas of new regionalism. It has thus become a central tenet of regional growth policy to create new kinds of arrangements, to mobilize local and regional actors and interest in horizontal network constellations, and to utilize information and knowledge assets by means of partnerships (Lovering, 1999; Hudson, 2005; Hessels and Parker, 2013).

2.1. Strategizing in networks

We define networking broadly as all of the actions of a company or an individual in business relationships and networks (Ford, Gadde, Håkansson and Snehota, 2003). Like any network setting, clusters are embedded in a historical, sociocultural, economic and political context that shapes the norms, values and expectations that in turn influence the structures and processes of the cluster and its members. Sizable efficiency gains can thus be achieved by the actors in strategic collaborative networks of exchange relationships (Awuah, Abraha and Osarenkhoe, 2011; Ojala, 2009; Kontinen and Ojala, 2011) through their activity links, resource ties and bonds to other actors in the network.

Kalinic and Forza (2012) discuss how SMEs use strategic focus rather than the gradual approach of building experience. They further argue that the internationalization of SMEs takes place in the absence of sufficient experience or specific market knowledge. In contradiction to previous research, SMEs can in many cases attain rapid internationalization (Osarenkhoe, 2009). Building on this, Hessels and Parker (2013) highlight the importance of inter-firm collaboration strategies. Collaboration, in particular when it unfolds in the context of networks, is an important facilitator in the internationalization of SMEs (Johanson and Lundberg, 2011; Ter Wal and Boschma, 2011; Kontinen and Ojala, 2011). Taking part in collaborative networks can benefit SMEs in internationalization processes (Hessels and Parker, 2013) by providing decision-makers with additional channels of information and knowledge, introducing partners, and influencing decisions on foreign market selection and entry mode. On the opposite side of the spectrum, Pla-Barber and Puig (2009) provide insight into the impact of industrial districts on the international activities of firms. Their paper shows how location influences the timing and levels of imports and exports, and how these influences have been diluted in recent years as the home-textile industry becomes more involved in the global arena. Thus, this challenges «some key arguments exploring the advantages of the district in the international activities

of firms by questioning the capacity of the district to prevent international sourcing, and its vulnerability to the threats created by the growing integration of the world economy» (*ibid.*, p. 435).

However, in the past 20 years there has been a shift in the economic policies pursued in many countries, with increased interest in networks in the micro-economic business environment (Zeng *et al.*, 2010). The focus is no longer on specific companies or on the market in general; instead, specific relationships and networks between companies in a region are the object of policy-makers' priorities (Ciravegna *et al.*, 2014). As a result, vast resources are now being poured into projects and programs to support the development of relationships between various companies in a specific region and aimed at achieving growth. It is therefore not surprising that, in recent years, various research disciplines have shown increasing interest in the collaboration between various stakeholders.

2.2. Innovation through clustering

Few innovations arise from a single, isolated source (Håkansson and Snehota, 1990). Most are created through complex, interactive, iterative and cumulative learning processes in which a variety of actors (individuals as well as organizations) are involved in different ways (Curran *et al.*, 1993; Dasanayaka and Sardana, 2010). The embryo of an innovation is not always spawned by a development department and passed on to other units. In many cases, the development department is instead integrated in all parts of the chain. Thus, the innovation process can also be considered a socially embedded process where the user perspective is often in focus (von Hippel, 2001).

It is important to study how innovation generates value for the parties involved (Håkansson and Waluszewski, 2002, 2007; Van de Ven *et al.*, 1999; Van de Ven, 1999). One definition of innovation suggests that innovation is born out of reshuffling resources both inside and outside of the firm. Thus, it is virtually impossible for a single company to reprocess and accommodate all the skills it needs within the organization. Instead, organizations rely on various forms of cooperation with external actors, companies and other organizations.

De Vrande *et al.* (2006) discuss how SMEs pursue open innovation primarily for market-related reasons such as satisfying customer demands, or keeping up with competitors. Their most important challenges relate to organizational and cultural issues as a consequence of dealing with more external contacts. Clusters can therefore provide a common platform that help SMEs to overcome these barriers. The value of a firm's presence in a specific cluster of firms with similar or complementary skills and expertise has been widely analysed in the literature (Porter, 1990; 1998; Martin and Sunley, 2011). According to Porter (1990), national clusters are formed by firms and industries linked through vertical (buyer/supplier) and/or horizontal (common customers, technology, etc.) relationships with the main players located in a single

nation or state. Porter (1998) later modified this definition to encompass institutions (formal organizations).

It has long been recognized that related firms and industries tend to locate in geographical proximity to one another but concentrate to a location only if agglomeration brings benefits greater than the cost of locating to that area (Martin and Sunley, 2011; Menzel and Fornahl, 2010). Geographical benefits relate to a certain geographical location (e.g. specialized labour, infrastructure, etc.), whereas agglomeration economies describe how these and other factors are created by increasing the number of firms (Martin and Sunley, 2011; Menzel and Fornahl, 2010).

Consequently, geographical proximity is seen as a vehicle that enhances the dissemination of knowledge and the development of institutions, which in turn may enhance cluster effectiveness. Geographical proximity creates competitive advantages for SMEs that cooperate closely and compete, since a host of linkages between cluster members results in a whole greater than the sum of its parts (Porter, 1998). Competitors within a cluster benefit from agglomeration effects in ways that yield cost advantages and access to resources not available to competitors not located in the cluster (Valdaliso *et al.*, 2011; Maskel, 2001). The geographic concentration of clusters contributes to developing additional economic benefits and technological externalities (Niu *et al.*, 2012). Technological externalities are defined as those consequences of activity which directly influence the production function in ways other than through the market (Ter Wal and Boschma, 2011; Martin and Sunley, 2011). Geographical proximity also strengthens communication and intensifies the exchange of knowledge between cluster members (Gomes and Hurmelinna-Laukkanen, 2013).

Karaev *et al.* (2007) addressed the effects of clusters on competitiveness, concluding that belonging to a cluster has a strong positive effect on SME policy in industrialized countries. This invariably reinforces the notion that geographical clustering of economic activity can have an impact on a firm's creativity and competitiveness in a number of different ways (Sami Sultan, 2014; Zaheer and Manrakhan, 2001; Malecki, 2012). It is expected that firms in a cluster can benefit from productivity improvements due to reduced transaction costs, access to labour, benefits associated with collective intelligence, technology spillover, and increased competitive pressure. Against this background and in line with cluster theory, local contexts and clusters, where companies interact effectively, become an important source of international competitive advantage.

One way of conceptualizing clusters is to view them as complex adaptive systems (Martin and Sunley, 2011), consisting of various stakeholders (large firms and SMEs, universities and research institutions, national and regional authorities, etc.) with varying characteristics, that interact with each other in a systemic way (Menzel and Fornahl, 2010, cf. Valdaliso *et al.*, 2016). Firms in cluster settings are heterogeneous in nature and therefore endowed with different organizational cultures, knowledge and capabilities (Ter Wal and Boschma, 2011). Hence, clusters «do not develop evenly and as a whole» (Menzel and Fornahl, 2010, p. 224; Valdaliso *et al.*, 2016, p. 68). Social capital in particular, however, is widely understood as condu-

cive to the promotion of intellectual capital, collective learning and the creation and transfer of knowledge both inside and outside the firm's and cluster's borders (Kuah, 2002; Maskell, 2001; Malecki, 2012; Valdaliso *et al.*, 2011). Nahapiet and Ghoshal (1998, p. 243) define social capital as «the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit,» which they categorize into structural-, relational- and cognitive dimensions. The three dimensions are all interrelated and affect firms.

According to Birkinshaw and Hood (2000, p. 12), «it is not just cluster membership but the specific characteristics of the cluster in question that impacts the likely subsidiary role». Ceglie (2003), on the other hand, argues that geographical concentrations of SMEs that operate in the same sector are not sufficient for producing «external economies». Trust-building and constructive dialogue (Niu *et al.*, 2011; Malecki and Fornahl, 2012) between cluster actors, information exchange, identification of common strategic objectives, and agreeing on a joint development strategy and its systematic and coherent implementation, are of paramount importance for building an efficient cluster.

2.3. Reflections on the theoretical underpinnings

For SMEs in a cluster initiative strategic network or industrial district settings, the decision to internationalize their business operations in markets with varying magnitudes of physical and psychological distance is an example of an innovative business practice. Inter-organizational collaboration offers lasting and well-structured relationships, resource flow and other interactions between specific organizations seeking to meet common —as well as individual targets. Cluster-based strategies can improve the competitiveness of SMEs and a cluster approach may be used by SMEs as a tool to meet their challenges with respect to globalization and trade liberalization. A company's strategic partnerships with other companies and organizations create synergies for the parties involved, which increases the potential for positive regional development.

3. Methodology

This current study adopted both qualitative and quantitative methods, with the main focus on the former (Yin, 2002). The data collection process took place from 2013 and 2015, with the first phase beginning in conjunction with workshops with representatives of clusters from five regions in Sweden.

Ten 2-hour focus-group discussions were conducted with process leaders of cluster initiatives, regional and local networks, with six members in each group. A moderator encouraged a free flow of viewpoints on the main theme for discussion (David and Sutton, 2004) that probed: How are the collaborative networks of pri-

vate and public partnerships organized to enhance the competitiveness of all of the stakeholders in a cluster? In following with requirements for conducting focus group interviews, the groups were observed from behind a one-way mirror. The researchers could see in but the participants could not see out. The discussions were videotaped and later transcribed.

The second part of the data collection process used a questionnaire with semi-structured and open-ended questions aimed at unveiling how firms in the clusters and networks perceive the benefits or gains of cluster collaborations. Fifty-three companies and other actors in the Aluminium Works-, Energy Agency-, Furniture Works- and Heavy-Duty Vehicles cluster initiatives were surveyed, through a combined e-mail and telephone questionnaire, with a response rate of 81%. The survey covered: how benefits accrued in conjunction with strategic collaborations in the region were manifested in different ways; advanced dialogue and consensus between companies and other significant actors; the potential to pool resources between companies, e.g. at production peaks; collaboration with schools and the education system to ensure workforce supply; the potential for shared marketing and profiling; the potential to establish collaboration with universities, other academia and research institutions; and the level of satisfaction with forms of work used by the clusters.

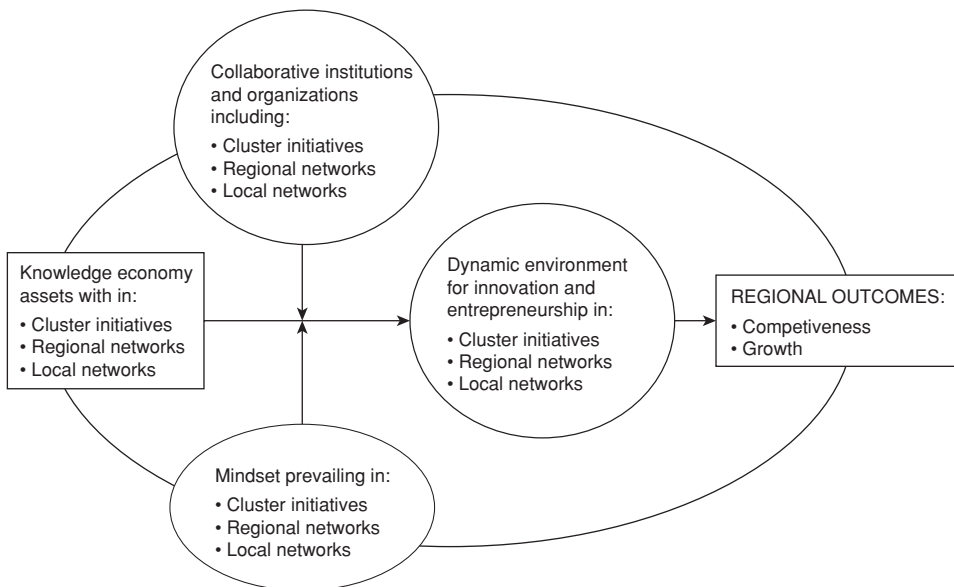
The analysis consisted of three steps: data reduction, data display, and drawing conclusions (Miles and Huberman, 1994). The main themes—in our case the *focus*, *objectives*, *activities and organization of the clusters and networks*, and *perceptions of cluster members*—were extracted to provide succinct insight on the salient features of the cluster initiatives, and regional and local networks in the region studied. The conclusion-drawing and verification focused on reflecting and understanding the data chosen to present.

4. Presentation of the case study on clustering and networking

According to our respondents, clusters and networks are collaborative arrangements that together contribute to strengthening and reinforcing fertile conditions for SMEs and for regional competitiveness and growth. In comparison to their Swedish peers, firms in Kronoberg County have fewer bankruptcies (2.6 per 1000). In recent years, the region has held a top position in terms of its capability for running fast-growing companies, with approximately 300 «gazelle» companies per million employees. Gazelle companies are vital for growth, as they are the ones creating most of the new jobs. Kronoberg County's share of exports is also very high. In 2010, it had the country's highest export figures per capita. When looking at the different forms of internationalization, a regional pattern emerges. The numbers of import and export companies in most counties in Sweden are relatively similar, with import businesses making up the largest share. In Kronoberg County, export companies make up the larger share.

Figure 1 shows that in knowledge economy, organizations collaborate to compete. Knowledge economy assets are turned into results when a dynamic environment for innovation and entrepreneurship is in place. To turn assets into outcomes for people and place in the knowledge economy, the process of innovation requires collaboration across boundaries, both geographical and functional. Oftentimes, collaborative organizations and institutions reflect regional mindset (values and attitudes). For example, it is essential for a region to have a mindset that encourages people and regions to be innovative and entrepreneurial. The presence of collaborative institutions and organizations, such as cluster organizations, networks, research-industry consortia and entrepreneurial support networks, greatly facilitates this environment. These alliances, networks and other relationship-building mechanisms create connections and linkages vital to economic development in a technology-driven world.

Figure 1. Analytical framework depicting three collaborative initiatives as continuums



Cluster initiatives: organized interaction between companies, administrations, and educational institutions around a common business category with the purpose of strengthening growth and competitiveness; **Regional networks:** interaction between actors at a regional level having an interest in collaborating around a common matter; **Local networks:** interaction between actors at a municipal level having a mutual interest in collaboration.

4.1. Mapping of the salient features of strategic collaboration platform

4.1.1. Cluster Initiatives

A cluster initiative is an organized development process associated with a common area of business activities. The purpose of such initiatives is to fortify

the growth and competitiveness of a cluster. Bilateral development processes run solely with authorities or other companies are not considered cluster initiatives, since they do not constitute collaboration that intersects industry, administration and academia.

Table 1 lists five cluster initiatives in Kronoberg County linked to established sectors in the county—in traditional manufacturing industry as well as in new areas of growth, including: *Aluminium Works*— comprising regional and national companies in the aluminium industry; *Bioenergy Cluster Småland*—providing marketing support for companies and organizations in bioenergy; *Glassworks*— a collaboration in the marketing and selling of experiences and activities involving glass manufacturing in the region; *Furniture Works*—involving design— and furniture companies in Småland, and aimed at developing a strong trade region; and *Heavy-Duty Vehicles*—comprised of industry manufacturers and their subcontractors, and aimed at facilitating collaboration between the companies. The table shows selected financial data for the five initiatives (in SEK thousands).

Table 1. Cluster initiatives in Kronoberg Country

<i>Cluster initiative</i>	<i>No. firms</i>	<i>No. employees</i>	<i>Sales volume</i>	<i>Turnover/employee</i>	<i>Gross profit</i>
Aluminium Works	48	4,214	11,292,808	2,680	798,314
Bioenergy Cluster Småland	12	1,264	4,924,379	3,896	10,975
Glassworks	8	695	624,852	899	11,749
Furniture Works	25	445	846,578	1,902	78,336
Heavy-Duty Vehicles	15	7,936	28,085,183	3,539	880,338
TOTAL	108	14,554	45,773,800	3,145	1,779,712

The main purpose of the cluster initiatives identified in this study is to stimulate economic growth in various business sectors and, through collaboration, reinforce the competitiveness of the firms and the cluster. According to the respondents, cluster initiative activities include common marketing, business profiling, and lobbying. The cluster initiatives encompass over 150 companies, the municipalities in the region, and over 20 other collaborative partners, like universities and university colleges. Together, the companies employ over 21,000 in and outside the region (based on data on 114 of the companies). Cluster initiative recruitment is conducted from a branch perspective rather than geographic. Members range from one-man enterprises to large global corporations, and their operations involve trade as well as manufacturing and services in both local/regional and international markets. Most of the cluster initiatives receive financial support from the region, and several participate in national programs and cluster development ventures.

4.1.2. Regional networks

Regional networks are not necessarily geographically based; nor do they necessarily represent a specific cluster. The following regional networks were identified in this study and include initiatives that focus on mobilizing individuals and actors in their work on region-related future issues, as well as initiatives to support branch development: *Centre of Information Logistics (CIL)*—promotes education in information logistics, based on the needs and priorities of the business sector; *Delta Garden*—aimed at strengthening the competitiveness of companies by developing new forms of communication and dialogue based on interaction and a participatory perspective; *Destination Småland*—promotes tourism and the hospitality industry in the region through collaboration between the region, municipalities and companies in the visitor industry; *GodaHus, Energy Efficient Buildings in the Southeast*—aimed at developing work related to energy efficient buildings in the region through collaboration between public actors, universities, and companies; and the *Governor's Ambassador Network*—a relatively new network that mobilizes actors and resources for future development in Kronoberg. The task of the regional networks is to support development of the region's business sector, collaborate on education for the business sector, and to strengthen the attractiveness and competitiveness of the region. The work entails generating strategies for joint efforts, coordination of projects, and municipal education.

4.1.3. Local networks in the municipalities

The focus here is primarily on interactions between actors at the municipal level with a mutual interest in collaboration. There are business networks in all of the county's municipalities, and municipalities often have more than one. In Ljungby, for example, five business networks were identified, three of which are presented below. In other municipalities, there are also more networks than those presented below. Several of the networks have a long history, and were initiated and are operated by the local companies. *Lagan Products*, for example, dates back to the 1960s, while other networks, like *Vi företagare* in Tingsryd and *Growing Älmhult*, have been active since the end of 1990s. IKEA is a member of the Growing Älmhult network.

The local networks primarily focus on support and development of the local business sector. Promoting the attractiveness of the municipality, as well as its companies and industry, is however also important. Interaction between companies, and between companies and the municipality, forms the core of network activity. The 15 local networks encompassed in this study have more than 700 members in total.

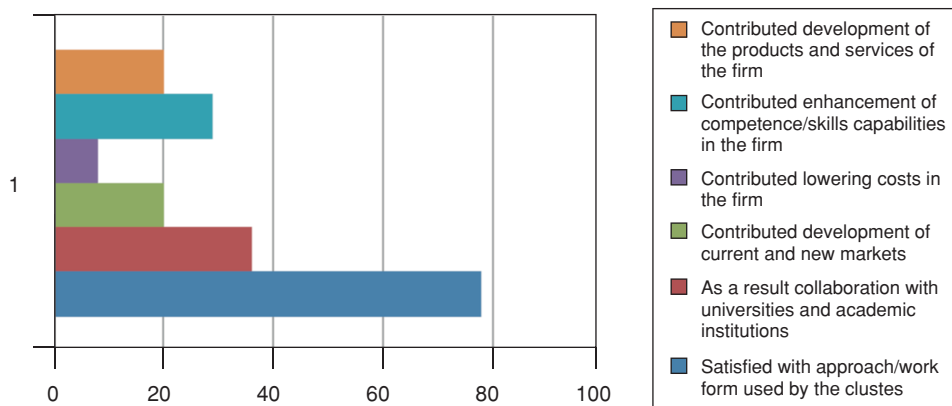
The local networks arrange breakfast meetings, common marketing, participation in trade fairs, initiatives to ensure continued access to an educated workforce, and collaboration with the municipality involving practical work experience for students. The networks have developed substantial collaborations with their municipalities, with well-established forms for continuous dialogue with municipal government.

4.2. Collaborations in clusters

A viewpoint commonly expressed by all respondents, which is also in line with extant literature (Osarenkhoe, 2010; Sami Sultan, 2014), is that collaboration in itself holds no value. Hence, it is crucial to substantiate any benefits derived from collaboration. In the end, a collaboration is not viable unless everyone feels they have gained. The benefits must be palpable to all of the actors involved. There is consensus among the actors surveyed in this study that benefits are what motivate them and other actors to collaborate and to contribute to jointly created preconditions for growth, both local and regional. Benefits accrued from clustering and networking were extracted from extant literature (Martin and Sunley, 2011; Menze and Fornahl, 2010; Osarenkhoe, 2010; Antoldi *et al.*, 2011; Cerrato and Depperu, 2011) and operationalized and, as noted above, can be manifested in different ways: advanced dialogue and consensus between partners; the potential to pool resources; access to an educated workforce; the potential for shared marketing and profiling; the potential for collaborations with universities and research institutions; and satisfaction with the work methods used.

Table 2 presents the perceptions of the cluster initiative actors in our study on the usefulness of clusters and networking.

Table 2. Firms' views on the benefits of clusters and networking



In a nutshell, *networking*, *dialogue*, and *experience exchange* were recurring themes in how the respondents expressed the benefits of collaborations in a cluster initiative setting. As one respondent put it:

Seminars and dialogue groups offer a good exchange of experiences, and increase the competence of the participating co-workers. Collaboration with the university provides an opportunity for specific, needs-based skills development activities and special education. In certain R&D areas, collaboration opens the way for external co-creation and financial resources. The largest benefits for my company are the recurring meetings and information exchange. This information is more concise and more relevant than the general reviews of the market situation available in various countries (like conferences, seminars, workshops, etc.).

Other benefits of cluster collaboration are the strengthening and development of the role of the business sector and that the cluster can function as a lobbyist in common matters. Collaboration in the cluster is also viewed as a way to market the region and make it visible, and as a means of increasing its attractiveness, which might help to entice new companies and entrepreneurs to the branch and the region. The respondents expressed their view on this as follows:

The cluster initiative is a means to market the region. Many more are attracted when companies come together. It increases sales volumes, and visibility, and thereby also the possibility of attracting more people to the branch [...] But it's still up to each company how to utilize that resource.

Another respondent described the different aspects of the benefit to firms, and what collaborating in clusters can entail:

Running joint projects, product- as well as knowledge-related, where staff from different companies and actors in the cluster participate, offers considerable added value for everyone, since the shared knowledge base in the projects grows considerably larger and, in particular, wider. We are also running projects and activities that individual actors wouldn't be able to carry out on their own. Having other actors from society present in the cluster is also very valuable.

The respondents' descriptions of the benefits of cluster collaboration convey a multifaceted picture of the needs and underlying rationale that motivate their firms to allocate time to collaborations. This picture is important in comprehending the dynamics of cluster collaborations and how a number of questions and aspects are involved in how the various actors perceive collaboration benefits. This may include issues with no direct or immediately foreseeable impact on a company's revenue or economic viability.

5. Discussion of the findings

Soft and hard benefits accrued from collaborations in clusters and networks

The foremost benefit of collaboration in clusters is «soft»: experience exchange, networking, and dialogue between companies and other actors. The companies are largely pleased with the forms of work in the cluster initiative. The most notable finding is that only 8% of the respondent companies agree that collaborating in clusters has led to reduced costs, e.g. through joint purchases or increased productivity. This contradicts earlier findings (Porter, 2000; Curran *et al.*, 1993; Martin and Sunley, 2011; Menzel and Fornahl, 2010; Karaev *et al.*, 2007; Venkataramanaiyah and Parashar, 2007), that geographical proximity brings so-called agglomeration effects in terms of higher specialization, innovation and knowledge transfer, leading to a reduction of costs and improved competitiveness of industrial sectors, regions and nations.

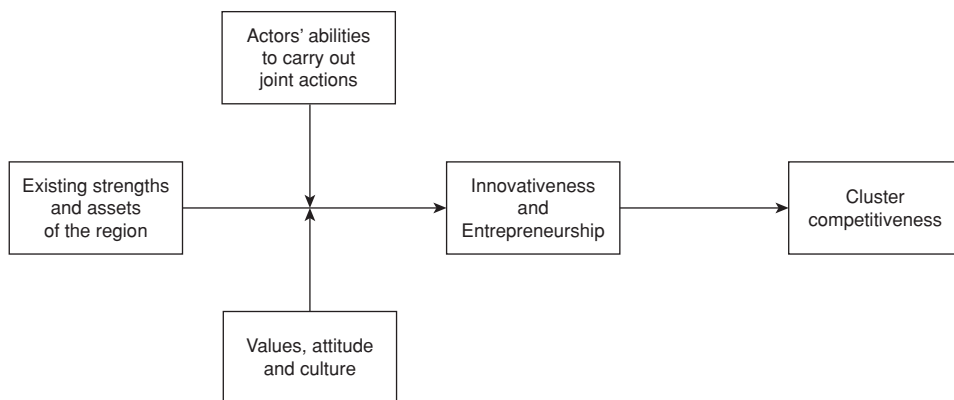
The above-mentioned anomaly is in contrast to the basic assumption of the open innovation model (von Hippel, 2001; Chesbrough, 2003), that much of the knowl-

edge useful for developing new products and services lies outside the boundaries of the company. This is particularly important for SMEs as they often lack the resources and capabilities (Antoldi *et al.*, 2011; Cerrato and Depperu, 2011) to manage the entire innovation process on their own, to turn their inventions into products or services. We therefore suggest clusters as a tool to alleviate these challenges, as there is mounting evidence that clustering and networking help SMEs to improve competitiveness (Venkataramanaiah and Parashar, 2007).

However, firms' perceptions of the benefits accrued from regional clusters, illustrate the complexity of the underlying motives for their participation in clusters. A number of different aspects of long-term sustainable growth of the companies and of the region are involved.

The analytical scheme presented earlier in Figure 1 is further refined and aggregated to an explanatory model of clusters and regional innovativeness. Figure 2 depicts an explanatory model of cluster and regional growth. A model (Figure 2) that emanated during the discussion of our findings below. Successful competitive regions base their growth and development on established areas of strength; they do not seek to develop completely new activities, but rather build on tradition, history, and competence in the region. But acting in the same way as always does not necessarily lead to success. Rather, it is the ability of renewing and developing existing assets in a region that creates the preconditions for competitiveness and growth in companies and regions.

Figure 2. Towards an Explanatory Model of Cluster and Regional Growth



However, innovation capability and entrepreneurship at an individual level do not sufficiently explain why certain regions are more successful than others in terms of creating the necessary conditions for growth. In prosperous regions, there is a contexture, a regional innovative environment founded on a consensus, and a capability for interaction between actors from different sectors of society. This has to do with cultures and values, and attitudes towards change and development, along with a framework for interaction. A region's leadership decisively affects its ability to

cultivate common values and joint actions. A regional leadership capable of creating a common consensus and establishing different forms of interaction, where different actors in the region move in the same direction, is imperative for building an innovative environment that promotes competitiveness and growth.

It can be deduced from the figure that interaction can be viewed as a four-phase process. The process starts with dialogue (to mobilize actors and resources) (Håkansson and Waluszewski, 2002; Van de Ven *et al.*, 1999) and formation of a common strategic idea, and continues with collaboration (the forming of common action plans for implementation) followed by joint action (implementation of the commitments and activities within the developed common frame and strategy). Partnership may also be regarded as a process over time, where the actors gradually acquire a shared view, with a simultaneous maturing of confidence and trust between the actors, that facilitates joint commitments and inputs (Ciravegna *et al.*, 2014; Johanson and Lundberg, 2011; Ter Wal and Boschma, 2011; Zeng *et al.*, 2010; Kontinen and Ojala 2011). The process calls for developing social capital that connects actors. This is particularly important when the environment is made up of actors with different organizational cultures (i.e. SMEs, MNEs, academia, government) (Lecler *et al.*, 2015).

6. Concluding remarks and implications

Mapping the salient features of existing clusters and networks and unveiling firms' perceptions of the benefits of regional clustering is the first step in a cluster development process. We mentioned earlier in the paper that our aim was to highlight the importance of interaction within and between society's stakeholders and how clusters and networking can contribute to long-term value creation that strengthens the competitiveness of companies at both the domestic level as well as in international contexts. On their own, SMEs are seldom able to develop the competencies, technology coverage, marketing skills, etc. required to meet all of the demands from the environment (Antoldi *et al.*, 2011; Cerrato and Depperu, 2011). However, these functions may well be developed by the companies through collaborating with others (Carbonara, 2002; Osarenkhoe, 2010). This enables them to acquire strategically crucial knowledge that can be converted into new products and services, thereby unleashing the dynamic potential of small enterprises and contributing, in the end, to economic growth.

The findings of this study that led the identification of «soft» and «hard» benefits accrued from collaborations in clusters invariably strengthens our understanding of the prerequisites for regional growth and competitiveness. In addition, we have identified the impact of soft factors such as regional leadership and governance, and interaction and joint action capabilities, emphasizing the importance of consensus and social capital. A model based on these critical factors, unveiling the factors relevant to cluster development and regional growth and how they interact with each other, has been presented.

Lessons learned from the preceding sections aptly depict that innovation capacity in companies, clusters and regions is an increasingly important factor in the development of competitiveness and growth. In order to establish long-term competitiveness, continuous development of new products, services and production processes is crucial. Innovation capacity is, along with entrepreneurship, decisive for sustainable development of companies and regions. In other words, efforts to stimulate growth and competitiveness among companies and regions are increasingly being focused on developing and renewing the resources available in a region. Achieving this requires strategic collaboration between various actors from various settings —businesses, private and public organizations, and academic institutions— thus epitomizing the notion that innovation entails new ways of configuring the resources of many actors, where the goal is to generate value for all of the parties involved. This places high demands on both the internal coordination of existing supplier chains as well as the ability to work together across industry and institutional boundaries.

The dynamic between short-term goals and long-term goals cannot be overemphasized in this case study. The most notable finding is that only 8% of the companies surveyed agree that collaborating in clusters has led to lower costs, e.g. through joint purchases or increased productivity, a far cry from other findings in extant literature. Short-term goals are important in order to create a driving force in the process and, in turn, the conditions necessary for more strategic, long-term efforts (e.g. establishment in culturally distant markets). Succeeding in processes of this kind demands perseverance and trust between the actors (Niu *et al.*, 2011; Malecki and Fornahl, 2012). Achieving tangible results from a cluster initiative often takes years. This time factor, puts the perseverance and trust of stakeholders to the test.

Further research is needed on how SME clusters can be significantly upgraded to enhance cluster productivity, competitiveness and participation in international markets. Such analysis can help diagnose a region's economic strengths and challenges and identify realistic ways to shape the region's economic future. Future research directions in clustering should also examine the constraints with respect to innovative capacity.

7. References

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