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FROM COGNITIVE TO ORGANISATIONAL PROXIMITY – INSIGHTS ON RESILIENCE OF CLUSTERS FROM THE SPORT INDUSTRY

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ABSTRACT

Sport clusters can be defined as geographical concentrations of private, public, and non-profit-organizations in a denominated area with a shared interest in one or similar sports. This paper addresses the following question: how does socioeconomic proximity – linkages between organizations or individuals which go beyond spatial proximity – influence the development and properties of sport clusters? This qualitative study investigates four sport clusters in surfing and sailing. The findings indicate that there are two types of sport clusters based on different forms of socioeconomic proximity. The surfing clusters are characterized by cognitive proximity based on convergent perceptions and managerial practices. The sailing clusters are characterized by organizational proximity based on complementarity. This article (1) discusses the resilience properties of these two types of clusters and (2) proposes a two-step model of cluster development. This research has implications for policy makers and cluster members by showing that clusters should be considered to be social constructions that go through different stages.

Keywords: sport cluster, socioeconomic proximity, resil

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Abstract

Sport clusters can be defined as geographical concentrations of private, public, and non-profit-organizations in a denominated area with a shared interest in one or similar sports. This paper addresses the following question: how does socioeconomic proximity – linkages between organizations or individuals which go beyond spatial proximity – influence the development and properties of sport clusters? This qualitative study investigates four sport clusters in surfing and sailing. The findings indicate that there are two types of sport clusters based on different forms of socioeconomic proximity. The surfing clusters are characterized by *cognitive proximity* based on convergent perceptions and managerial practices. The sailing clusters are characterized by *organizational proximity* based on complementarity. This article (1) discusses the resilience properties of these two types of clusters and (2) proposes a two-step model of cluster development. This research has implications for policy makers and cluster members by showing that clusters should be considered to be social constructions that go through different stages.

Key words: sport cluster, socioeconomic proximity, resilience

1. Introduction

The cluster concept refers to a well-established field of research (Martin & Sunley, 2003; Porter, 1998, 2008), and it has been an enduring element in national economic policies (Benner, 2012; Ketels, 2015). The cluster model is based on the spatial concentration of primarily small-and medium-sized enterprises (SMEs) that are complementary but also competitors (Porter, 1998). The increasing interest in clusters stems from the promises of prosperity associated with them. In the 1970s the model of industrial districts, a predecessor of the cluster model, appeared to be more appropriate regarding contemporary economic changes than the Fordist mass production

system (Piore & Sabel, 1984). Clusters present a “third way” between the liberal view on the economy based on free markets and competition and the interventionist approach that advocates for proactive industrial and technological policies.

Additionally, the sport sector has seen political and economic initiatives for cluster development on the national and international level (EU4SportsClusters, 2016; EuroSIMA, 2016; Sporaltec, 2016). Shilbury (2000), a pioneer in the conceptualization of sport clusters, emphasizes that clusters are the “third wave of the organization of the sport system” (Stewart-Weeks, 1997). He positions the notion of sport clusters in a global perspective on future sport delivery systems. However, limitations have already been identified in the context of non-sport clusters: the underestimation of the strong heterogeneity of clusters (Markusen, 1996).

This article takes a different perspective on clusters, understanding them as socially constructed (Granovetter, 2002). Hence, their development process depends on the social and historical context as it relies on linkages between organizations or individuals, i.e., the non-spatial proximity that we label as socioeconomic proximity. Linking this constructivist approach with the typology of proximity put forward by Boschma (2005), we address the following question: how does socioeconomic proximity influence the development and properties of sport clusters?

This paper contributes to the research on strategy in the field of sport management (Shilbury, 2000, 2012). Recent state-of-the-art sport management research argues that as an academic discipline it still fails to provide a crucial body of literature on the strategy issues of sport organizations other than those that organize physical education and athletic programs (Shilbury, 2012). This could be achieved for example by studying companies involved in the manufacture of any type of sports equipment and how these organizations can formulate and implement competitive strategies (Slack, 1996; Slack & Thurston, 2014).

In the next section we outline existing cluster and sport cluster research followed by the theoretical framework. The third section presents the methods used for data collection and analysis. The fourth section presents the results of the four case studies. In the fifth section two types of clusters are discussed that depend on different predominant forms of socioeconomic proximity. The paper closes with the suggestion of a two-step model of cluster development relying on the varying nature of socioeconomic proximity.

2. Theoretical Framework

2.1. The cluster concept

The cluster concept is grounded in location theory and argues that in spite of the increasing globalization of markets through faster and cheaper transportation and communication, locally available knowledge, relationships, and motivation are key to achieving sustainable competitive advantage (Porter, 1998). Generally speaking, a cluster is “a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities” (Porter, 2008, p. 215). Porter (2008) argues that a localized system of interconnected companies, specialized suppliers, firms in related industries, and associated institutions is more competitive than any of these firms standing alone.

2.1.1. Towards a better acknowledgement of social interactions in clusters

The interest in the social interactions in clusters grew in the 1970s with the rediscovery of Marshall’s (2000[1890]) “industrial atmosphere.” With increasing criticism on the traditional economic geography (Hotelling, 1929) and later on the new economic geography (Krugman, 1991), the discipline of socioeconomic geography emerged. This approach led to a more comprehensive understanding of clusters by considering socio-historic aspects and social interactions as a means to circulate information and knowledge. Seminal works on Italian industrial districts found that local production systems based on concentrations of specialized and complementary SMEs are as efficient as large, vertically integrated manufacturers

(Bagnasco, 1977; Becattini, 1979). Several works followed, including the Californian school that redefined regional economies as systems for coordinating human actions and relationships (Scott & Storper, 1987; Storper, 1997). Saxenian (1994) showed that the Silicon Valley was able to overcome difficulties during the economic crisis that were similar to those of the Route 128 cluster. This was due to the economic and social networks that facilitated a quick adjustment in response to brutal changes in the markets.

More recent sociological research stressed that social interactions have an influence on the development of clusters. Powell, Koput, Bowie, and Smith-Doerr (2002) highlight the strong, local, and interpersonal relationships between venture capitalists and researchers that explain the spatial concentration of the biotechnology industry in the U.S. in the 1990s. The new economic sociology led to an understanding of clusters as social constructions that are determined by underlying social structures. Research in this area has investigated how social networks and their actors (notably venture capitalists and law offices) affect economic activity (Suchman, 1994; Ferrary & Granovetter, 2009).

2.1.2. Proximity as a multifaceted concept impacting cluster properties

The growing attention to social interactions in cluster research has led to a new conceptual framework that integrates different forms of proximity emerging from the coordination of cluster actors (Gilly & Torres, 2000). Boschma (2005, p. 63-67) defines four forms of proximity in addition to geographical proximity: (1) cognitive, i.e., “the sharing [of] the same knowledge base and expertise;” (2) organizational, which refers to “the extent to which relations are shared in an organizational arrangement;” (3) social proximity, which corresponds to the underlying social structure in which economic relations are imbedded; and (4) institutional, which is “associated with the institutional framework at the macro-level.” These four types of proximity refer to the interactions between local actors that we label as socioeconomic proximity in this paper.

This nuanced understanding of proximity leads to two paths of investigating clusters. The first addresses a better consideration of the heterogeneity of clusters. If clusters are no longer considered as mechanical answers to market imperatives but rather as historical and social constructions (Granovetter, 2002), their development process is necessarily subject to contingency. Thus, is it possible to identify predominant types of socioeconomic proximity that would make it possible to classify them?

The second path of investigation concerns the stability of clusters. If their social and economic development process is contingent, to what extent are they capable of being sustainable? The notion of “resilience” addresses this issue and has generated growing interest and research (Christopherson, Michie, & Tyler, 2010; Simmie & Martin, 2010; Boschma, 2015). Resilience can be defined as the capacity of a cluster to overcome external perturbations – an unfavorable economic climate, technology shock or structural change of demand – but also “to reconfigure [its] socio-economic and institutional structures to develop new growth paths” (Boshma, 2015, p. 734). Do some clusters possess superior resilience capacities than others? What are the conditions or characteristics necessary to obtain them?

2.2. Research on sport clusters

The concept of sport clusters has emerged only in the last two decades (Shilbury, 2000). Applying the cluster concept to sport requires a revisiting of the foundations of location theory due to the particularities of the sport sector such as public and non-profit organizations as important actors (Smith & Stewart, 2010).

2.2.1. Conceptual research on sport clusters

The majority of sport cluster research is empirical papers that apply Porter’s cluster concept or a comparable construct (i.e., innovative milieu, industrial district) to sport industries, notably outdoor and action sports (Kellett & Russell, 2009; Stewart, Skinner, & Edwards, 2008). However, few conceptual cluster studies have investigated the particularities of the sport sector

and how these might affect the cluster concept (Gerke, Desbordes, & Dickson, 2015; Shilbury, 2000).

Shilbury (2000) pioneered the suggestion of the concept of sport clusters. He recognized the increasingly complex environment of sport governing organizations and their need to create competitive advantage through new forms of organization and management procedures. Shilbury (2000) proposed a new sport delivery system taking into account revenues from a wider range of sport industry-interested organizations to fund sport including professional athletes, infrastructure designers, equipment manufacturers, retailers, and promoters. A key characteristic of this structural change is the emergence of cross-industry linkages between private, public, and non-profit organizations. Therefore, sport organizations must be able to create, manage, and maintain relationships with private, public, and non-profit organizations (Babiak, 2007; Cousens, Babiak, & Bradish, 2006; Marlier et al., 2015).

2.2.2. Empirical research on sport clusters

Several articles have applied the cluster concept to various sport contexts to confirm or negate its applicability in the sport sector.

The example of the outdoor sport industry in the French Alps showed little evidence for the cluster phenomenon. The absence of interorganizational linkages, established institutional structures, and a sport system closed towards the private sector were barriers to the development of a sport cluster (Hillairet, 2002; Hillairet & Richard, 2005; Richard, 2007). While non-profit-organizations including sport federations, clubs, leagues, and associations, as well as public organizations such as the national ministry of sport and education, regional and local councils, universities and research laboratories are important actors of the sport sector, very few links were identified with private organizations in the sport sector (Hillairet, 2002). The success of a sport cluster lies in the involvement of private sector actors including powerful international corporations as well as entrepreneurial SMEs and linking them with the non-profit and public

sector (Gerke et al., 2015; Richard, 2007). This argument joins previous research on the interorganizational linkages between different types of sport organizations (Babiak, 2007; Cousens et al., 2006).

However, the application of the cluster concept has proven useful for explaining several sport clusters. Stewart et al. (2008) found Porter's cluster concept to be highly useful for analyzing the localized surfing industry in Torquay. The Australian surfing case evidenced most of Porter's (1998) cluster characteristics such as significant and discerning local market demand, increased productivity, entrepreneurship, and competitive pressure. The study also raises a question about the role of non-profit sport organizations such as governing bodies, leagues, training institutes, and venues in the sport cluster concept (Stewart et al., 2008). Logue, Argent, and Warren (2014) emphasized not only the creative design of high-quality products in artisanal structures as success factor of Australia's surfing clusters but more importantly socio-cultural interactions as an important catalyst for economic activities. However, these researchers identified the lack of coordination between the cluster members, of local leadership, the lack of a young and skilled workforce, and the lack of surf events as the main barriers for cluster success. A key shortcoming in several cases of surf clusters in Australia was the absence of a coordinating industry body to identify export opportunities, investigate education schemes, and standardize industry practices. None of the government or industry initiatives could reach a consensus and establish a stable industry body (Logue et al., 2014).

In contrast, in sailing industry clusters from France and New Zealand researchers identified either a cluster governing body or other forms of industry organizations as a central actor of the cluster (Chetty, 2004; Gerke, 2014; Gerke et al., 2015; Glass & Hayward, 2001). Further cluster success factors cited in these studies were a highly disintegrated production system and hence high interdependency among the firms, cooperative networks, a high number of entrepreneurial SMEs, historical and cultural anchorage in the region, and local consumption

of and interest in competitive and leisure sailing. Useful applications can be found for both the innovative milieu and the cluster concepts in the case of sailing clusters (Camagni, 1995; Chetty, 2004; Glass & Hayward, 2001).

Nevertheless, few articles have specifically addressed coordination issues. One of the exceptions is the research on motor sport clusters that investigates knowledge generation and transfer as the key success factors of cluster members in sustaining a competitive advantage (Henry & Pinch, 2000, 2001; Pinch, Henry, Jenkins, & Tallman, 2003; Viljamaa, 2007). The key success factors identified for the British Motor Sport Valley were spatially confined knowledge generation and dissemination via two principal ways: knowledge transfer through employee mobility, gossip and rumor (interpersonal) and knowledge transfer, per se, embodied in the machinery provided by suppliers to car constructors (interorganizational). Although these articles indirectly tackle the topic of socioeconomic proximity, future research should focus more on interorganizational linkages, power distribution, and how the latter impacts knowledge generation (Henry & Pinch, 2000, 2001).

The literature review shows the important role of social interactions and the resulting forms of socioeconomic proximity due to division of labor and coordination of actors in clusters. However, sport management literature provides little research on these topics. This article contributes to sport management literature and more specifically to the sport cluster concept. The study investigates the different forms of socioeconomic proximity that characterize the division of labor and coordination of actors in sport clusters. This approach goes beyond the dichotomous view distinguishing the economic agglomerations that correspond to the cluster concept and those that do not (Hillairet, 2002; Richard, 2007) and highlights the heterogeneity of organizational forms that clusters can take. Furthermore, this study analyzes the varying resilience capacities of these cluster forms depending on their socioeconomic characteristics.

3. Methods

This qualitative study compares two clusters from the sailing industry to two clusters from the surfing industry. A multiple case study with pairs of similar case studies permits theory development through literal and theoretical replication. Similar results among similar cases strengthen the theory through literal replication. Differing results across different pairs of cases deepen the theory (Yin, 2009). This case abides by the statement by Miles, Huberman, and Saldaña (2014, pp. 33-34): “If a finding holds in one setting and, given its profile, also holds in a comparable setting but does not in a contrasting case, the finding is more robust.” This research has an explanatory purpose employing an abductive approach (Dubois & Gadde, 2002). The following sections describe the different cases, data collection, and data analysis.

3.1. The cases

This study investigates cases from Australia, France, and New Zealand. These countries provide favorable conditions for the development of sport clusters in surfing and sailing (Glass and Hayward, 2001; Logue et al., 2014) because they have well-developed, localized sport industries that concentrate on the equipment in these sports (Chetty, 2004; EuroSIMA, 2016; Logue et al., 2014; Stewart et al.).

One sailing cluster is located in southern Brittany, France. It is embedded in the larger marine industry but specializes in services and products for approximately 20 ocean racing teams located there. There is a dedicated cluster governing body for the local ocean racing industry (Eurolarge Innovation, 2016). The second sailing cluster is located in Auckland, New Zealand, and is also home to numerous ocean racing teams and specialized companies. It is embedded in the larger marine industry and its industry association that numbers 450 members (NZ Marine, 2016). The first surfing cluster is based in Aquitaine, France, and has a dedicated cluster governing body (EuroSIMA, 2016). The other surfing cluster is in Torquay, Australia, and has no stable governing body or industry association.

Table 1 presents general information on each case (Eurolarge Innovation, 2016; Market Economics, 2012; Région Aquitaine, 2016; Surf and Lifestyle Torquay, 2009) and information regarding the data collection including the number of organizations interviewed and interviews, interview length, number of observations and secondary documents analyzed.

--- Insert Table 1 about here. ---

3.2. Data collection

This qualitative research uses interviews (n=117) and observations (n=17) as primary data sources and organizational information (n=47) and archival data (n=27) as secondary data sources. The observations screen the empirical terrain, reveal the organizations and structure of the cluster, and provide opportunities to recruit participants for interviews. Semi-structured interviews are the main data source. Secondary data complement interview data. The organizations interviewed belong to one of ten different types of cluster organizations. These organization categories cover different types of sport equipment manufacturers, service providers, sport organizations, governing bodies, and tertiary institutions (Gerke et al., 2015). Table 2 presents the ten types of cluster organizations and how many interviews were conducted with each type of cluster organization per case.

--- Insert Table 2 about here. ---

The interviewees were either directors of the organizations (in the case of SMEs) or managers from marketing or research and development departments. The managers of the cluster governing bodies helped us to identify the interviewees. The latter had to be a part of a cluster organization and involved in interorganizational linkages. The majority of the semi-structured-interviews (80%) were in person. The interviewees provided feedback or approval for the interview transcripts.

The interviews were semi-structured into three parts. Part one is an introduction of the interviewee and his/her organization. Part two concerns the characteristics of the cluster

environment and the positioning of the interviewee's organization in the cluster. The interviewer encouraged the interviewee to describe any form of relationship within the cluster to provide concrete examples of interorganizational behavior. Finally, part three discusses the link between interorganizational relationships and innovation.

Observations took place during sport, industry, and firm events mostly at the beginning of data collection. They helped to screen the cluster and to identify organizations and their representatives for interviews. Informal, unstructured interviews occurred during those observations, and secondary data were collected, including product brochures, industry reports, and company presentations.

3.3. Data analysis

This study used the qualitative research software Nvivo to analyze data. Interview transcripts, observation reports, and secondary data were imported into Nvivo. An initial round of deductive coding identified the data related to interorganizational links including formal and informal as well as bilateral and multilateral links. This coding scheme was used to identify relevant data concerning the research question, "How does socioeconomic proximity influence the development and properties of a sport cluster?" In a second step, the inductive data analysis identified five characteristics of the cluster and its development using the pre-coded data. These five criteria were product cycle and work organization; the involvement of education and research institutes; the coordination of cluster and its members; information flows and knowledge exchange; and objectives, culture, norms, and identity.

4. Results

4.1. The sailing clusters

Interorganizational links in the sailing clusters occur notably during boat-building projects. These are long and complex and require the involvement of several different cluster members.

These organizations leverage their complementarity and therewith optimize the production processes.

4.1.1. Product cycle and work organization

Contracts and customer orders in the sailing industry tend to be quite large. A marine service firm in Auckland indicated that “some of them are 500.000 man-hours, and so you have to be very clear on everyone’s responsibilities.” The volume and complexity of orders and tasks require specialization and explain the high level of work division in the sailing clusters. This collective organization is also imposed by the support of the governmental economic development and trade agency towards the marine industry and its members which is subdivided in specific streams (high-technology equipment, specialized performance vessels, composites, Asian market development, and cruising and boat refit).

A typical example of an interorganizational project is a boat-building project for a large offshore race or cruising yacht. The construction of a boat requires many different specific parts that in turn require specific skill sets and sometimes high-end technology and production machinery. Therefore, several specialists come together usually at the shipyard, over a longer period of time (i.e., 1 to 3 years depending on the size of the boat) to construct the boat together. In ocean racing, professional sailors often become involved, too.

The team contracts so many small boat-builders and machine shops all over Auckland to make all different parts that have to come together. [...] There is no one boat-builder that could virtually do everything for the size of the project that we have right now. It's the AC 72, a very big man-hours project. (Auckland/Professional sport)

Furthermore, in Brittany the local supplier network for the marine industry is at the heart of the sailing cluster:

It is a quite well-developed subcontractor network. Since 2000, we have worked on control norms that are very strict, for example, there are control firms in Nantes, Brest,

and Lorient. Other examples are the maintenance firms and machining subcontractors.

We have 0 subcontractors outside of Brittany. (Brittany/Shipyard)

The break-down of a large mission into smaller tasks shared by several differently specialized firms leads to a shared responsibility in the case of failure. These are anticipated in contracts:

The contract means ‘si vis pacem, para bellum’, so expect the worst in the contract but if there are problems, we will find a solution. However, if we face someone who decides to mess around, the contract gives us a guarantee that we have to respect our client. There are big penalties if we deliver late, so we have to share that risk. (Brittany/Shipyard)

4.1.2. Involvement of education and research institutes

The complexity of the tasks is also shown through the involvement of university and private research institutes. In the boat-building project for a professional ocean racing team based in the Auckland area, the local university was involved in building a testing facility and conducting prototype tests. A manager of the facility testifies:

A contract was signed between three parties [university, professional team, sail maker] because the wind tunnel is located on university land; the contract said that Team New Zealand could use the wind tunnel. However, initially, they used it for nothing. Then, our agreement said that after the America's Cup, they could use it at a discounted rate. Also the sail maker could use the tunnel at a discounted rate until they had accumulated a certain amount of cost. Then, we charged the full rates. (Auckland/Research/education institute)

Universities are also involved in the sailing cluster in Brittany. A shipyard manager explains that “each time there is more or less a university, a research center, a final utilizer, and a transformation company” involved in a project.

Education and research organizations are involved not only because of their expertise. They can also take the role of an advisor to direct firms with research projects but insufficient funds towards potential funding sources or research partners. As an employee from a university who acts as a bridge between industry and research explains:

Universities have to justify more and more the industrial interest of the research that they want to pursue to obtain funding. So, there is often a partnership between a company and university, or it is in form of a consortium, which is less exclusive.

(Brittany/Research/education institute)

4.1.3. Coordination of cluster and its members

The Auckland marine industry association has 450 members and focuses on marketing activities to increase members' business opportunities. It also coordinates marine training programs. This association has no major role in the boat-building projects. However, it is a means of networking and bringing cluster members together for business or innovation during informal meetings. The director explains: "It's important that the CEO has very close communication with the industry people themselves, through the committees and visits to individual companies. So, he is kept well informed and can sometimes see opportunities." (Auckland/Governing body)

In the Brittany sailing cluster the specialized governing body plays a central role to federate firms in the ocean racing sector. This can be through seminars that treat industry specific topics but that also allow firms to interact on an informal level and to probe opportunities for collaboration. A marine service firm testifies, "The days on technical issues that they organize are very positive. That allows you to think about problems. There are usually high quality speakers. It helps also to meet people." (Brittany/marine service firm)

Designers and naval architects are pivotal in the composition and coordination of actors and are often hired first in a boat-building project. Hence, their suggestions of suppliers and subcontractors heavily impact the interorganizational team working on a project.

I am a designer; I do everything. My clients hardly meet the people who I bring in. I am the person who communicates with the client, and any jobs that I subcontract, they come through here. I check it, and then, I pass it on to the client or the boat-builder, so everything stops here. (Auckland/Naval architect)

4.1.4. Information flows and knowledge exchange

The cluster environment allows information flows and knowledge exchange through various channels. Formal meetings such as daylong seminars on technical issues but also after-work meetings at cluster members' offices offer opportunities for knowledge transfer and informal information exchange. However, cluster members tend to be very results oriented in regard to meetings and information exchange. They are less willing to commit time and resources to projects for which the outcome is not immediate.

Once collaborative projects take shape between several cluster members, a formal agreement is often signed to ensure confidentiality. Cluster organizations are willing to share new information and knowledge with other cluster members but not outside the cluster.

We share a lot of technical information, but the reason why we have a contract is because we have intellectual property that we need to protect. It should really be used in the group and then in the cluster. (Brittany/Sail maker/rigging firm)

Knowledge sharing is considered as enriching and synergies creating rather than as reducing competitiveness:

There are many companies in this industry branch that do not necessarily know each other or exchange information. Then, there are several organizations that accompany economic development. The idea was to succeed in creating synergies between all these companies to make progress in the entire sector and reach a higher level in terms of innovation and structuration. (Brittany/Education/research institute)

The marine and sailing background of most of the people working in the cluster organizations permitted the creation of interpersonal links that are mobilized in the cluster for business purposes:

These are people who have always lived in Brittany and who have known each other for 30 years. They have sailed together. They have participated in America's Cup together. They came across each other in shipyards. They all know each other. [...] These are people who naturally work together. (Brittany/Governing body)

Good interpersonal as well as working relationships facilitate informal exchange and knowledge sharing among cluster members: "It's a good context; we are all sending people around to each other. So we know what the other companies are doing, what they are capable of, and what they want to be doing" (Auckland/Sail maker/rigging firm). The sheer presence of many marine firms in the cluster provides opportunities for identifying best practices and learning from the failures of other firms. Labor mobility is clearly another means of knowledge transfer as stated here:

In the yachting syndicates, each time they finish a season, everybody swaps around and goes to a different team. So, it's such as small close-knit industry, your reputation is only ever as good as you did the last time. (Auckland/Sail maker/rigging firm)

4.1.5. Objectives, culture, norms, and identity

Cluster members are aware of the interconnectedness and complementarity of their activities. Therefore, they seek respectful relationships with others as there is a mutual interdependence. They look for optimization and synergies in the shared value-creation process. This comes from the complex nature of boat-building and is therefore a backbone characteristic of the industry cluster.

You don't just design sails independently of a mast or a boat; you treat it as a system. So, they said, "Right, we are going to start designing this boat a year ahead; we want the boat

designer, the mast designer, and the sails designer to all start working together.” So, that is the process that works there. (Auckland/Sail maker/rigging firm)

Seniority in business and in sailing as a sport activity is a strong characteristic in the sailing clusters. In France most of the cluster members are originally from Brittany and have a strong sailing background. This influences the cluster’s culture and identity. Additionally, in New Zealand people in sailing businesses have known each other for a long time, and strong cultural norms and identity based on a passion for sailing link them.

We were all hanging around in the sail maker’s team back in the 1990s. So, a lot of networking has been going on to build those relationships as the New Zealand sailors have gone out and become important sailors in the world, and those relationships have been very important and have been maintained over the years. (Auckland/Sail maker/rigging firm)

Competitive sailing plays an important role in the sailing cluster not only from a business point of view, as professional racing teams represent important budgets, but also from a social point of view. Employees of cluster firms tend to participate in racing themselves or are involved with people who race.

We work with a lot of different people: Olympic sailors, America's Cup guys, and the local yacht club. So, this whole networking goes on, and it is indirectly part of the business process as well. (Auckland/Marine equipment firm)

The best interest of the cluster, for example, its reputation in terms of quality and competences, is more important than individual interests. Therefore, cluster firms are willing to orient clients to other firms, even competitors, if they cannot provide a required product or service due to a lack of time, resources, or competencies. People are also willing to share almost any information and knowledge that could be relevant to other cluster members: “All the people I work with are also the people I have sailed with over the years, so there is no internal

competition or holding back of information. Everyone contributes freely and wants to contribute freely.” (Auckland/Marine service firm)

Optimization of business relationships and processes is also possible thanks to better knowledge about the capabilities and expertise of different cluster members. This allows firms to make quicker and more efficient choices for subcontractors or suppliers. A representative of the governing body explains: “In terms of quality, I think that now the actors know each other better. They know what they can expect from each other. They don’t have all the same strengths at the same time” (Brittany/Governing body).

4.2. The surfing clusters

Product cycles in the surfing clusters are shorter, and cluster members are more independent from each other. There is little division of labor, and product complexity is limited; hence, products can be entirely produced by a single firm. The primary objective of joining the cluster is to gain legitimacy vis-à-vis the industry and the clients. Cultural norms, identity, and resulting behaviors are strongly related to the milieu of surfing as most employees of the surfing cluster firms are surfers themselves.

4.2.1. Product cycle and work organization

Firms produce and sell similar value propositions comprising products and services related to surfing. Most of them have created a powerful brand image that allows a high profit margin. A fair amount of the margin is taken by the distributors and retailers. That is why some of the biggest boardsport brands have diversified into retailing (e.g., Rip Curl, Billabong, and Quiksilver). These companies sometimes even belong to the same corporate group. As underlined by this university professor, “The three core brands all have shoes, snowboarding gear, skate gear or surfing gear, but do they talk to each other even though they are in the same group?” (Torquay/Education/research institute).

Because of similar products and business models, the cluster members tend to have similar problems that they try to solve in collective projects, often on the initiative of the cluster governing body.

To determine which of the projects have priority for our companies, we have one committee per project axis: environment, marketing, innovation, and HR. When a project is defined as a priority, we include it in the cluster's budget and we manage to get it co-financed by the public authorities. (Aquitaine/Governing body)

Another example of the similarity of cluster companies is their similar needs concerning recruitment. Therefore, the cluster governing body has put into place an IT system that HR managers of different firms use to discuss about the future needs in terms of recruitment and how to manage these future needs. These collective initiatives concern only non-strategic issues.

4.2.2. Involvement of education and research institutes

Some cluster members look for collaboration with universities in terms of research and development. These can be direct collaborations between a boardsport company and a university or with the cluster governing body as an intermediary in the French surfing case: "If one day we want to find a substitute for neoprene, we will look for it outside. These are projects that we give to the university. They also work on this" (Aquitaine/Boardsport brand).

In the French surfing cluster, the governing body and other members also work with universities for education purposes. Industry-specific study programs are co-created and advertised by the cluster governing body.

Furthermore, in Torquay one of the reasons for creating a formal cluster governing body – which turned out to be difficult – was to link the industry with education and research institutions: "The big thing that we were intended to do with the cluster program was to get the

private sector, higher education, and R&D institutes to work together” (Torquay/Governing body).

4.2.3. Coordination of cluster and its members

Here, a fundamental difference between the French and the Australian surfing clusters appears. In the Australian case members were unable to create a formalized network with a cluster governance body, whereas this was achieved in France despite the similar business models and markets and the low differentiation and complementarity between cluster members. This can be explained through differences in the local political system because in France the public authorities were at the origin of the creation of the cluster governing body together with a few large board sport brands. The joint initiative was supported by the key players of the industry.

EuroSIMA is an initiative that had been realized under the pressure of local political representatives because these people wanted one single representative of the industry as the main contact. (Aquitaine/Amateur organization)

In Torquay surfing firms identified a similar need for a united voice to interact with public authorities:

There was a need to have some representation at the local, land, state, and government level, and the local Surf Coast Shire productively lobbied for the industry to create a representative voice for what the industry wanted to be communicated to the government. So, that was kind of how the Surf and Lifestyle Torquay group formed. (Torquay/Surf equipment specialist)

However, initiatives for federating the members of the surf industry into a joint governing body were unsuccessful. The regional government had an economic development program in which a company would receive 1 AUD funding for 1 AUD invested. Cooperative efforts between several members of the same industry were rewarded, too. The program operated for several weeks, but quantifiable results (e.g., people employed, companies created,

collaborative projects established, patent registered, and so on) were evaluated very poorly; hence, the program stopped. Apart from this top-down approach, there were a few industry-driven federating initiatives such as the Surf and Lifestyle Torquay (SALT) group, but none has gained substantial visibility and power regarding public authorities and the industry itself:

There was a previous industry group before that. It had to reach a quorum to do anything, and most of the industry in Torquay had a representative in it. If we couldn't reach a quorum, which is a unanimous vote, we couldn't do anything. If we had an issue that people felt was warranted, we would action it, and we were really successful. But if we couldn't get a unanimous support within the group, then we had no view. (Torquay/Surf service firm)

4.2.4. Information flows and knowledge exchange

Collective projects where information is shared occur on peripheral topics such as the recycling of products or packaging material. Firms are willing to advance jointly on topics that are not related to competitive advantage. In these projects, cluster firms provide shared funding to hire an external research or engineer firm to undertake the project: “These companies are engineering companies, for the recycling of the neoprene we worked for example with [company]. They helped us to find solutions” (Aquitaine/Boardsport brand). These collective research projects are cited as one of the reasons why firms joined the cluster governing body in the French surfing case:

We use the cluster for several different research projects where we gather all together. We take advantage of the knowledge of everyone rather than if we were alone. We are in the cluster especially because of the research possibilities, for example, the recycling possibilities of neoprene. (Aquitaine/Surf service firm)

However, other cluster members argue that these collective projects are very rare and only happen thanks to the initiative of the cluster governing body:

I have rarely seen the people of [boardsport brand 1] and [boardsport brand 2] work together. I have seen very little of this and only if the cluster governing body was involved and managed to involve all the companies, so that all the big companies agreed to work together. (Aquitaine/Surf equipment specialist)

There are informal information flows that occur during the joint practice of surfing of the firms' employees, through employees' mobility amongst firms, and through the co-location of firms and hence the visibility of new products, services, or marketing ideas in the cluster environment: "Since everybody is centered in almost the same area, the information is going through very quickly for bad and good aspects as well." (Aquitaine/Accessories/clothing firm)

4.2.5. Objective, culture, norms, and identity

In the French case, cluster members join the formal cluster governing body to show their belongingness to and legitimacy in the surfing industry. Being visible on the cluster's website and participating in their events testifies shared values and beliefs with other members. In some cases there are also practical issues that attract firms to the cluster, such as economies of scale and shared cost for support activities. However, image effects are the main reason for surfing firms to be part of the formal cluster governing body. Even the physical co-location with other surf firms, as in the Australian case where no formal cluster governing body exists, is sufficient attraction for firms to set up their business next to others. It is actually essential for cluster members to create a collective image to be visible and competitive on a higher level. The mission of the SALT group was "To cement Torquay as the World's Surfing Capital, recognized internationally as the place to be for Surfing and Lifestyle Industries" (Torquay/Extract from archival data).

Simultaneously, the culture and identity of the surf cluster is characterized by belonging to a community with shared values and beliefs related to surfing. Part of this culture is also fellowship, camaraderie, and festivity that is evident in the French cluster governing body's

annual meeting with an evening ball. Cluster members are honored with awards, and it is the occasion to be seen as part of the surf industry.

The main purpose of Waterman's Ball is to unite the surf industry in a more sociable environment in order to give them time and space to interact informally. Furthermore, industry prizes and awards, such as the 'Innovation Prize,' worth €5,000, are awarded to industry members. (Aquitaine/Extract from an observation report)

In both surfing clusters work and private life are very much intertwined. People are passionate about their sport and hence about their business. This strong passion for surfing federates and interlinks them in a community.

While they live here, they will be mates; they will hang out together and have pretty good surfing together. Then, the same people who work in one company will leave to work for another surf company. They are all kind of interrelated. (Aquitaine/Boardsport brand)

However, between similar firms the information exchanges remain superficial or only on a cordial basis. More sensitive topics that are related to competitive advantages are usually taboo in conversation between cluster members. Cluster firms also tend to keep innovation projects confidential and in-house rather than working collaboratively on innovation with other cluster members.

Probably not innovative stuff because you want to stay ahead of the competition, but from time to time, there might be some sort of talk about the industry. You can't go too far because there is illegal collusion and all that sort of stuff. And half those guys are my friends too, so I see them on the weekend or out on the water. (Torquay/Boardsport brand)

Some former cluster members have left the French cluster governing body because they were satisfied by neither the internal functioning nor the collective projects implemented by third parties. In particular, smaller firms would like to see a different functioning as expressed here by a surf equipment specialist:

Innovation within the cluster is managed by a consulting firm that sells consulting services. Myself, I remain convinced that the role of a cluster is more that the cluster members discuss issues, agree on ways to proceed, eventually choosing a consulting firm with which they want to work, but not to impose it. (Aquitaine/Surf equipment specialist)

The results show that interorganizational and interpersonal relationships in sailing and surfing clusters are different in nature and development. While sailing firms have often contractual and complementary buyer-supplier and subcontractor relationships, surfing firms are more linked via shared beliefs and practices.

5. Discussion

5.1. Heterogeneity and typology of sport clusters

Clusters are subject to historical contingency and hence undergo a development process that leads to heterogeneous organizational forms. This research looks for recurring patterns and characteristics among different forms of clusters. The results bring forward two cluster categories that differ in terms of the prevailing forms of socioeconomic proximity (Boschma, 2005).

Cognitive proximity is observed in the first category which concerns the surfing clusters in Aquitaine and Torquay. It is based on similarity characterized by convergent beliefs and managerial and organizational practices. The cluster organizations rely on the social representations and shared practices that are unique to the surfing industry. At the same time, interdependencies between their production systems are almost non-existent as their business models are very similar. Organizations have a strong marketing orientation, operate in the same markets, and are often in direct competition. The institutional environment (e.g., the governing body in the case of Aquitaine) initiates collective projects (but rarely collaborative ones) that address shared topics but that are mostly far from the core business and not strategically relevant (e.g., recycling of neoprene in Aquitaine).

The absence of interdependent linkages between members could challenge the actual status of clusters (Hillairet, 2002). However, we understand them as a first category of clusters that is based on a quest for legitimacy in the choice of location according to the logic of mimetic isomorphism (DiMaggio & Powell, 1983), also referred to as the “penguin effect” (Suire, 2002; Vicente, 2005). Organizations intend to obtain a particular status in their market by being associated with the market leaders and by sending out similar messages and signals (Podolny, 2008; Dalla Pria, 2011).

Firms based in the surfing clusters chose their location based on emblematic brands such as Quiksilver and Rip Curl. Both firms were created in Torquay in 1969 and arrived in Aquitaine in the mid-1980s before the creation of the industry association European Surf Industry Manufacturers Association in 1999 (EuroSIMA, 2016) and the associated cluster governing body “EuroSIMA Cluster” in 2008. As White (2002) noticed, economic actors amend their behavior and interactions in response to the behavior of other actors observed in the market. However, while he focuses on the choices concerning pricing levels and supply quantities, we also consider choices of location which lead to mimicry based on progressive homogenization of behaviors.

Organizational proximity is predominant in the second cluster category which addresses sailing clusters in Brittany and Auckland. It draws on complementarity and belongingness. Competences of cluster organizations are distinct and complementary, and technologies are compatible. The level of division of labor and specialization is high, and hence firms are strongly interdependent. Examples of this logic are the project “sailboat of the future” that calls upon various Breton competences to imagine the yacht of tomorrow or the boat-building projects of professional ocean racing teams where the work is divided among the skipper, naval architect, engineering office, shipyard, and several sub-contractors.

The reasons for convergent location choices in this second type of cluster are based on the willingness of cluster members to meet, exchange information concerning their business, learn collectively, and develop a professional network. Therefore, the phenomenon of economic agglomeration is not anymore a mere result of a quest for legitimacy but relies also on the presence of network externalities: the more firms participate in a network, the more attractive it becomes.

The logic found in these clusters corresponds to the logic of increasing returns to adoption as suggested in the model of competing technologies by Arthur (1989) and applied to the emblematic Silicon Valley (Arthur, 1990). This research shows that the need for coordination and collective learning can lead to the monopolization of an entire industry by a region due to irreversibility created through path dependency (Pierson, 2000). This phenomenon can be observed in the case of the sailing clusters in Brittany and Auckland. Coordination and complementarity resulting from multiple social interactions are the main sources of attraction of clusters as argued by Saxenian (1994) in her seminal work on the Silicon Valley.

5.2. The impact of socioeconomic proximity on resilience in sport clusters

The sport clusters analyzed in this paper show similar properties than those observed in technological clusters. Dalla Pria and Vicente (2006) argue that differentiating forms of socioeconomic proximity is critical to analyze the varying stability of clusters. Indeed, as long as location choices of organizations are based on the objective of accessing important resources (e.g., skilled workforce, public contracts, technical expertise, and strategic information), the collective behavior is relatively stable (e.g., Silicon Valley). On the contrary, if location choices are based on shared beliefs and practices with the industry leaders, collective behavior is instable because it is more vulnerable to exogenous shocks. In these cases optimal conditions are met for the development of an informational cascade (Bikhchandani, Hirshleifer, & Welch,

1998) as observed in the development of the technological clusters Silicon Sentier (Paris) and Silicon Alley (New York). In spite of a rapid development and growth phase, these economic agglomerations declined brutally after the collapse of stock exchanges in 2000. In other words, weak division of labor and hence weak coordination and complementarity make a cluster more vulnerable to exogenous informational or economic shocks, whereas a networking organization based on interdependencies in the production processes increases the stability of a cluster and makes individual relocation strategies expensive but also less relevant.

The aforementioned insights imply that the surfing clusters are less “resilient” than the sailing clusters (Boschma, 2015). This proposition is for the surfing cluster in Torquay. After a period of growth in the 1970s and 1980s, the surfing industry has suffered a crisis in the 1990s due to the increased competition in the industry itself and to new competitors from the fashion industry. The reaction of many leading companies was to relocate their production to Asia. In the sailing clusters, however, the bad economic situation turned out to have a lesser impact. Although the appreciation of the New Zealand dollar between 2011 and 2015 slowed down demand, this did not lead to an equal relocation of firms as in Torquay.

The Aquitaine surfing cluster is situated between the two extreme cases of Torquay and of the sailing clusters in Auckland and Brittany. Aquitaine was affected by the surfing industry crisis in the 1990s and also by the global financial crisis beginning in 2008. The shares of the European entities of Billabong and Quiksilver melted during these critical years. Nevertheless, it seems the presence of the industry association EuroSIMA and the cluster governing body EuroSIMA Cluster since 2008 has significantly helped to prevent the collapse of the cluster. In terms of Boschma’s (2005) typology of proximity, in this case institutional proximity compensated for the low levels of resilience capacity associated with cognitive proximity. This was not possible in Torquay due to the absence of a cluster governing body and hence the absence of institutional proximity and support.

This discussion of resilience properties of these sport clusters must be put into perspective in view of the specificities of the sport industry. In the technological clusters Silicon Sentier and Silicon Alley nothing held the start-ups in their initial location once broadband internet had become largely accessible. Sport clusters, however, are closely linked to local immovable specificities of the territory in which they are located. In the clusters studied here, proximity to the ocean with world-famous surf spots and safe and varied sailing grounds are factors that drastically limit the possible relocation of cluster members. The same is true for mountain sports and sports requiring specific infrastructure (e.g., car race courses, golf courses, and horseracing courses). Specific geography or infrastructure do not actually foster cluster development; however, they sustain local anchorage of sports and related economic activities in case of external shocks.

5.3 Dynamic approach: towards a two-steps model of cluster development?

This section addresses the question as to why in some clusters the “network effect” based on high levels of division of labor is predominant while in other clusters the “penguin effect” based on a quest for legitimacy prevails.

These two categories correspond to two ideal-type forms of collective organization: *community* and *society*. Based on the distinction established by Tönnies (1887), Durkheim (1893) associates each of these types of collective organization with a type of social linkage. The notion of the *community* can be defined as a group of individuals who share beliefs and values and who are linked through sustainable and profound affectionate links (“mechanic solidarity”). The collective organizational form *society* is characterized by contractual links between distinct and complementary individuals (“organic solidarity”). This approach is based on an explicit willingness or interest to develop a network not merely on affection or tradition.

Storper (2005) applies these seminal concepts with regards to clusters and finds that the strength of Silicon Valley lies in the capacity of creating links relevant to both modes of

collective organization. The same is true for the sailing clusters studied in this paper. The organizational form society is predominant with regards to the level of sophistication of division of labor prevailing in these clusters. At the same time local actors describe clearly how their cognitive proximity (culture and set of shared knowledge) facilitates the realization of complex projects. In the surfing clusters, however, the community best describes the observed interaction system: Rip Curl, Quiksilver, Billabong, or Oxbow show such similarities in their core business and marketing strategies, hence the absence of close collaborations and a secretive culture around innovation.

This conceptualization is especially interesting regarding the potential for transition between the two categories. Tönnies (1887) and also Durkheim (1893) show how contemporary societies have been marked by a strong development following the society model (organic solidarity) that has partially substituted the community model (mechanic solidarity). Both organizational forms, community and society, are not mutually exclusive but rather different stages of the same socioeconomic development process. Thus, the results in this research support the argument that the surfing clusters in Torquay and to a smaller extent Aquitaine (which represents an intermediary stage) are economic entities in which the level of division of labor is in an embryonic state. This can be explained by the strong homogeneity of their populations that makes it difficult, even risky, to develop complementarities. In contrast, the sailing clusters in Brittany and Auckland are characterized by heterogeneous populations with diversified competencies that need to be coordinated.

The findings from the sport clusters indicate that cognitive proximity may support the development of interdependencies in the production system and collective innovation under the condition that it becomes not too strong. If cognitive proximity is strong, as it may be when the level of homogeneity among the cluster organizations is high, there is a risk for the “lock-in” phenomenon which prevents the development of organizational proximity (Broekel &

Boschma, 2012; Molina Morales, Belso-Martínez, Más-Verdú, & Martínez-Cháfer, 2015). In this context the cognitive proximity observed in surfing clusters may present an early stage of socioeconomic proximity, whereas the level of division of labor observed in the sailing clusters may indicate a more advanced stage of socioeconomic proximity. Rather than considering cognitive and organizational proximity as opposed phenomena, these can be considered as a continuum of socioeconomic proximity. They link the two ideal-type organizational forms community at one hand and society on the other hand. Any clusters can be analyzed and classified on this continuum, and implications can be drawn on stability properties and possible measures to improve resilience capacity.

6. Conclusion

This paper investigates two sailing and two surfing clusters with regards to the influence of socioeconomic proximity on their development and resilience properties. The findings show that while surfing clusters develop because firms seek legitimacy through association with leaders of the industry, firms in sailing clusters seek spatial proximity with complementary firms to develop business networks. Firms in surfing clusters have similar beliefs, values, and managerial and organizational practices, and their linkages can be characterized as cognitive proximity. This form of collective organization corresponds to the sociologic model of community (mechanic solidarity). On the contrary, sailing firms develop links with complementary firms to access resources, exchange information concerning their business, learn collectively, and develop a professional network. This type of linkage can be characterized as organizational proximity due to the network effect. This form of collective organization corresponds to the sociologic model of society (organic solidarity). Community and society are considered here as stages of one and the same sport cluster development process with community being the initial stage and society being the final stage.

These different forms of collective organization due to different dominant forms of socioeconomic proximity lead to different resilience capacities of sport clusters. Cognitive proximity that is too strong risks lock-in effects and prevents the development of organizational proximity. This is the case for the Torquay surfing cluster. The Aquitaine surfing cluster is on an intermediary stage between community and society. The two sailing clusters can be considered as organizational forms that correspond to the society model. The two-step model of cluster development and the cases' positioning is displayed in Figure 1.

--- Insert Figure 1 about here. ---

This research contributes to research in sport management and economic geography. Little research is available on sport management regarding choices of location and socioeconomic proximity of activities in the sport industry. With the example of sport clusters this research contributes to the knowledge on these strategic questions in sport management. This paper also contributes to economic geography literature by explaining the role of socioeconomic proximity for cluster development and resilience properties.

The managerial implications of this paper concern public decision-makers and cluster governing bodies. One suggestion is that during the emergence of clusters they can engage in creating a collective dynamic by initiating collective projects. This form of institutional proximity supports the development of other forms of proximity (cognitive, organizational, and social) and is likely to improve resilience properties by compensating the fragility of cognitive proximity. In the later development phases it is important that the actions of institutional actors are oriented towards the promotion of *collaborative* projects to encourage organizational proximity which improves resilience properties. These measures prevent the lock-in phenomenon that was observed in Torquay according to which excessive cognitive proximity (e.g., due to a homogenous population) prevents the development of organizational proximity,

hinders the further development of the cluster, and makes it more vulnerable with regards to economic and technological evolutions.

This study focuses on sport clusters in outdoor sports. Other types of clusters should be analyzed to further generalize the propositions put forward here. Furthermore, longitudinal studies of the cluster phenomenon in sport or other industries would be useful to extend and strengthen the knowledge on sport cluster development and its resilience capacities.

7. Reference list

- Arthur, W. B. (1989). Competing technologies, increasing returns and lock-in by historical events. *The Economic Journal*, 99, 116-131.
- Arthur, W. B. (1990). Silicon Valley locational clusters: When do increasing returns imply monopoly? *Mathematical Social Sciences*, 19, 235-251.
- Babiak, K. (2007). Determinants of Interorganizational Relationships: The Case of a Canadian Nonprofit Sport Organization. *Journal of Sport Management*, 21(3), 338-376.
- Bagnasco, A. (1977). *Tre Italie. La problematica territoriale dello sviluppo italiano*. Bologna: Il Mulino.
- Becattini, G. (1979). Dal settore industriale al distretto industriale. Alcune considerazioni sull'unita d'indagine dell'economia industriale. *Rivista di economia e politica industriale*, 5(1), 7-21.
- Benner, M. (2012) Cluster Policy as a Development Strategy. Case Studies from the Middle East and North Africa. *Working Paper Series in Economics*, 255. Lüneburg: University of Lüneburg.
- Bikhchandani, S., Hirshleifer, D., & Welch, I. (1998). Learning from the behavior of others: conformity, fads, and informational cascades. *Journal of Economic Perspectives*, 12, 151-170.

- Boschma, R. (2005). Proximity and innovation: A critical assessment. *Regional Studies*, 39(1), 61-74
- Boschma, R. (2015). Towards an evolutionary perspective on regional resilience. *Regional Studies*, 49(5), 733-751.
- Broekel, T., & Boschma, R. (2012). Knowledge networks in the Dutch aviation industry: the proximity paradox. *Journal of Economic Geography*, 12(2), 409-433.
- Christopherson, S., Michie, J., & Tyler, P. (2010). Regional resilience: theoretical and empirical perspectives. *Cambridge Journal of Regions, Economy and Society*, 3, 3-10.
- Camagni, R. P. (1995). The concept of innovative milieu and its relevance for public policies in European lagging regions. *Papers in Regional Science*, 74(4), 317-340.
- Chetty, S. (2004). On the crest of a wave: the New Zealand boat-building cluster. *Entrepreneurship and Small Business*, 1(3/4), 313-329.
- Cousens, L., Babiak, K., & Bradish, C. L. (2006). Beyond Sponsorship: Re-Framing Corporate-Sport Relationships. *Sport Management Review*, 9(1), 1-23.
- Dalla Pria, Y., & Vicente, J. (2006). Interactions mimétiques et identités collectives. Gloire et déclin du Silicon Sentier. *Revue Française de Sociologie*, 47(2), 293-317
- Dalla Pria, Y. (2011). Naissance, vie et mort des labels géographiques : le cas des nouveaux districts de la net-économie. In P. François (Ed.), *Les institutions marchandes. Genèse et efficacité* (pp. 139-168). Paris: Presses de sciences Po.
- DiMaggio, P. J., & Powell, W. W. (1983). The Iron Gage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- Dubois, A., & Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, 55(7), 553-560.
- Durkheim, E. (2007[1893]). *De la division du travail social*. Paris: PUF.

- EU4SportsClusters. (2016). List of Cluster Organizations. Retrieved from <http://www.clustercollaboration.eu/cluster-list>, accessed 30th July 2016
- Eurolarge Innovation. (2016). The ocean racing business network. Retrieved from <http://www.eurolarge.fr/the-ocean-racing-business-network/>, accessed 30th October 2016
- EuroSIMA. (2016). Presentation. Retrieved from <http://www.eurosima.com/presentation-1.html>, accessed 30th October 2016
- Ferrary, M., & Granovetter, M. (2009). The role of venture capital firms in Silicon Valley's complex innovation network. *Economy and Society*, 18(May), 326-359
- Gerke, A. (2014). *The relationship between interorganizationorganizational behavior and innovation within sport clusters*. (Unpublished doctoral thesis). Paris-Sud University, Orsay, France.
- Gerke, A., Desbordes, M., & Dickson, G. (2015). Towards a sport cluster model: the ocean racing cluster in Brittany. *European Sport Management Quarterly*, 5(3), 343-363.
- Gilly, J. P., & Torre, A. (2000). *Dynamiques de Proximité*. Paris: L'Harmattan.
- Glass, M. R., & Hayward, D. J. (2001). Innovation and Interdependencies in the New Zealand Custom Boat-building Industry. *International Journal of Urban and Regional Research*, 25(3), 571-592.
- Granovetter, M. (2002). A Theoretical Agenda for Economic Sociology. In M. F. Guillen, P. E. Collins, P. England, & M. Meyer (Eds.), *The New Economic Sociology: Developments in an Emerging Field* (pp. 35-39). New York: Russell Sage Foundation.
- Henry, N., & Pinch, S. (2000). Spatialising knowledge: placing the knowledge community of Motor Sport Valley. *Geoforum*, 31(2), 191-208.
- Henry, N., & Pinch, S. (2001). Neo-Marshallian Nodes, Institutional Thickness, and Britain's 'Motor Sport Valley': Thick or Thin? *Environment and Planning A*, 33(7), 1169-1183.

- Hillairet, D. (2002). Existe-il un milieu innovateur dans l'industrie du sport ? *Innovations*, 16(2), 71-100.
- Hillairet, D., & Richard, G. (2005). Milieux innovateurs en filière sports-loisirs: essai d'application d'un paradigme technico-industriel du développement économique régional endogène. In P. Bouchet, & C. Sobry (Eds.), *Management et marketing du sport: du local au global* (pp. 259-285). Villeneuve d'Ascq: Presses universitaires du Septentrion.
- Hotelling, H. (1929). Stability in competition. *The Economic Journal*, 39(153), 41-57.
- Kellett, P., & Russell, R. (2009). A comparison between mainstream and action sport industries in Australia: A case study of the skateboarding cluster. *Sport Management Review*, 12(2), 66-78.
- Ketels, C. (2015) Competitiveness and Clusters: Implications for a New European Growth Strategy. *WWFForEurope. Welfare, Wealth, Work. Working paper n°84*. Vienna: European Union.
- Krugman, P. R. (1991a). *Geography and trade*. Cambridge, Mass: MIT Press.
- Logue, D., Argent, N., & Warren, A. (2014). Wipeout? The Gold Coast and Tweed surfboard manufacturing cluster and local economic development. *Local Economy*, 30(1), 119-138.
- Market Economics. (2012). New Zealand Marine Industry Survey 2011. Marine Industry - Performance Review. Retrieved from NZ Marine.
- Markusen, A. (1996). Sticky places in slippery spaces: a typology of industrial district. *Economic Geography*, 72(3), 293-313.
- Marlier, M., Lucidarme, S., Cardon, G., De Bourdeaudhuij, I., Babiak, K., & Willem, A. (2015). Capacity building through cross-sector partnerships: a multiple case study of a sport program in disadvantaged communities in Belgium. *BMC Public Health*, 15(1), 1-10.

- Marshall, A. (2000). *Principles of Economics* (Liberty Fund Ed. 8th ed.). London, New York: Macmillan for the Royal Economic Society. (Original work published 1890).
- Martin, R., & Sunley, P. (2003). Deconstructing clusters: chaotic concept or policy panacea? *Journal of Economic Geography*, 3(1), 5-35.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis. A Methods Sourcebook* (3rd ed.). London: Sage.
- Molina Morales, F. X., Belso-Martínez, J. A., Más-Verdú, F., & Martínez-Cháfer, L. (2015). Formation and Dissolution of Inter-firm Linkages in Lengthy and Stable Networks in Clusters. *Journal of Business Research*, 68(7), 1557-1562.
- NZ Marine. (2016). NZ Marine. Retrieved from <http://www.nzmarine.com/>, accessed 30th October 2016
- Pierson, P. (2000). Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review*, 94(2), 251-267.
- Pinch, S., Henry, N., Jenkins, M., & Tallman, S. (2003). From 'industrial districts' to 'knowledge clusters': a model of knowledge dissemination and competitive advantage in industrial agglomerations. *Journal of Economic Geography*, 3(4), 373-388.
- Piore, M., & Sabel, C. (1984). *The Second Industrial Divide. Possibilities for prosperity*. New York: Basic Books.
- Podolny, J. M. (2008). *Status Signals. A Sociological Study of Market Competition*. Princeton, NJ: Princeton university press.
- Porter, M. E. (1998). Clusters and the New Economics of Competition. *Harvard Business Review*, 11, 77-90.
- Porter, M. E. (2008). Clusters and Competition. In M. E. Porter (Ed.), *On Competition* (pp. 213-303). Harvard, Mass: Harvard Business School Publishing Corporation.

- Powell, W., Koput, K., Bowie, J., & Smith-Doerr L. (2002). The Spatial Clustering of Science and Capital for biotech firm-venture capital relationships. *Regional Studies*, 36(3), 291-305.
- Région Aquitaine. (2016). Invest in Aquitaine. Retrieved from <http://www.invest-in-southwestfrance.com/board-sports.html>, accessed 30th October 2016
- Richard, G. (2007). Application du concept de milieu innovateur dans la filière sports-loisirs: Étude de cas dans l'industrie des articles de sport rhônalpine. *Revue d'Économie Régionale & Urbaine*, 5, 831-859.
- Saxenian, A. (1994). *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Scott, A. J., & Storper M. (1987). High Technology Industry and Regional Development: A Theoretical Critique and Reconstruction. *International Social Science Journal*, 112, 215-232.
- Shilbury, D. (2000). Considering Future Sport Delivery Systems. *Sport Management Review*, 3(2), 199-221.
- Shilbury, D. (2012). Competition: The Heart and Soul of Sport Management. *Journal of Sport Management*, 26(1), 1-10.
- Simmie, J., & Martin, R. (2010). The economic resilience of regions: towards an evolutionary approach. *Cambridge Journal of Regions, Economy and Society*, 3, 27-43.
- Slack, T. (1996). From the Locker Room to the Board Room: Changing the Domain of Sport Management. *Journal of Sport Management*, 10, 97-105.
- Slack, T., & Thurston, A. (2014). The social and commercial impact of sport, the role of sport management. *European Sport Management Quarterly*, 14(5), 454-463.
- Smith, A. C. T., & Stewart, B. (2010). The special features of sport: A critical revisit. *Sport Management Review*, 13(1), 1-13.

- Sporaltec. (2016). Sport Equipment Cluster of Rhône-Alpes. Retrieved from <http://www.sporaltec.fr/>, accessed 30th October 2016
- Stewart, B., Skinner, J., & Edwards, A. (2008). Cluster theory and competitive advantage: The Torquay surfing experience. *International Journal of Sport Management and Marketing*, 3(3), 201-220.
- Stewart-Weeks, M. (1997). The third wave: Developing a post-2000 sports policy framework. *Sport*, 17(1), 6-12.
- Storper, M. (1997). *The Regional world: territorial development in a global economy*. New York: Guilford Press.
- Storper, M. (2005). *Society, community, and economic development. Studies in Comparative International Development*, 39 (4), 30-57.
- Suchman, M. C. (1994). *On Advice of Counsel: Law Firms and Venture Capital Funds as Information Intermediaries in the Structuration of Silicon Valley* (Unpublished doctoral thesis). Stanford University, CA.
- Suire, R. (2002). *Réseaux sociaux et géographie économique* (Unpublished doctoral dissertation). Université de Rennes 1, Rennes, France.
- Surf and Lifestyle Torquay. (2009). Surf industry opposes Spring Creek growth plan. In Surf and Lifestyle Torquay (Ed.). Torquay: Surf and Lifestyle Torquay.
- Tönnies, F. (2010[1887]). *Communauté et société*. Paris: PUF.
- Vicente, J. (2005). *Les espaces de la net-économie: clusters TIC et aménagement numérique des territoires*. Paris: Economica.
- Viljamaa, K. (2007). Technological and Cultural Challenges in Local Innovation Support Activities - Emerging Knowledge Interactions in Charlotte's Motor Sport Cluster. *European Planning Studies*, 15(9), 1215-1232.

White, H. C. (2002). *Markets from Networks. Socioeconomic Models of Production*. Princeton, NJ: Princeton University Press.

Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed.). Los Angeles, CA: Sage.

8. Tables and Figures

Table 1: Key data of case studies

| | French sailing cluster in Brittany | New Zealand sailing cluster in Auckland | French surfing cluster in Aquitaine | Australian surfing cluster in Torquay |
|---|---|--|--|--|
| Annual turnover generated (€m)* | 215 | 10 | 1700 | 400 |
| Number of cluster member organizations | 110 | n/a | 400 | 200 |
| Number of persons employed | 1500 | 160 | 3500 | 1000 |
| Number of interviewed organizations | 26 | 25 | 21 | 21 |
| Number of interviews** | 27 | 27 | 24 | 25 |
| Average interview length (min.) | 52 | 44 | 41 | 45 |
| Number of observations | 8 | 4 | 3 | 2 |
| Number of secondary data items*** | 24 | 13 | 18 | 19 |

* Figures vary between clusters depending on the industry scope for which figures were available.
** Concerning bigger organizations several different persons were interviewed.
*** Documents retained after scanning.

Table 2: Number of interviews per type of cluster organization and case

| Sailing Cluster | Brittany | Auckland | Surfing Cluster | Aquitaine | Torquay |
|---------------------------------|-----------|-----------|---------------------------------|-----------|-----------|
| shipyard | 2 | 4 | surf/boardsport brand | 6 | 3 |
| sail maker/rigging firm | 3 | 4 | surf equipment specialist | 2 | 2 |
| marine equipment firm | 6 | 3 | surf accessories/clothing firm | 3 | 2 |
| marine service firm | 4 | 4 | surf service firm | 4 | 4 |
| marine media/communic.firm | 2 | 1 | surf media/communic.firm | 1 | 0 |
| naval architect | 2 | 2 | surf board designer/shaper | 1 | 1 |
| professional sport organization | 2 | 3 | professional sport organization | 1 | 1 |
| amateur sport organization | 1 | 2 | amateur sport organization | 1 | 1 |
| education/research institute | 2 | 1 | education/research institute | 1 | 3 |
| governing body | 3 | 3 | governing body | 4 | 8 |
| Total | 27 | 27 | | 24 | 25 |

Figure 1. Two-step model of cluster development

