

Territory as support for innovation in competitive clusters: towards sustainable territorial attractiveness

*Le territoire comme soutien à l'innovation dans les pôles de compétitivité :
vers une attractivité territoriale durables*

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ABSTRACT

In 2004, France launched a new industrial policy to cope with the increasingly competitive environment facing the economy. This public policy links territories, innovations and industry by bringing together heterogeneous local actors. The aim of the policy is to mobilize innovation by encouraging proximity of the actors, thereby facilitating the development of collaborative projects. In addition, the concentration of actors in the same territory allows visibility on an international scale, which can be a source of attractiveness. Lastly, the territorial anchoring of the members of the competitive clusters can be considered as a curb on offshoring. Applying this definition, we realize that these networks have been built on the basis of the territory, and indeed represent an instru-

ment of public action in the field of local economic development. It is by taking into consideration the territory from a diachronic point of view and by mobilizing territorial governance that competitiveness clusters can be considered as regional innovation systems. On the basis of a qualitative methodology and semi-structured interviews carried out in two competitive clusters in the 'Sud' Region, we propose highlighting the importance of the territory and the sustainable perspective of competitiveness clusters through social innovation and sustainable territorial attractiveness.

Key-words

Competitive clusters; Social innovation; Sustainable territorial attractiveness

RÉSUMÉ

En 2004, la France lance une nouvelle politique industrielle pour faire face à une économie de plus en plus concurrentielle. Elle se positionne pour mettre en relation les territoires, les innovations et l'industrie via le rapprochement d'acteurs hétérogènes

locaux. Cette politique publique souhaite mobiliser l'innovation *via* la proximité des acteurs qui facilite la naissance de projets collaboratifs. De plus, la concentration d'acteurs sur un même territoire permet une visibilité à l'échelle internationale, qui peut être source d'attractivité. Enfin, l'ancrage territorial des membres des pôles peut être considéré comme

un frein aux délocalisations. À travers cette définition, nous nous apercevons que ces réseaux ont été construits en s'appuyant sur le territoire. En effet, ils représentent un instrument de l'action publique en matière de développement économique local. C'est en prenant en considération le territoire d'un point de vue diachronique et en mobilisant la gouvernance territoriale que les pôles de compétitivité peuvent être considérés comme des systèmes régionaux d'innovation. Grâce à une méthodologie qualitative et des entretiens semi-di-

rectifs menés dans deux pôles de la Région Sud, nous proposons de mettre en évidence la prise en compte du territoire et la perspective durable des pôles de compétitivité à travers l'innovation sociale et l'attractivité territoriale durable.

Mots-clés

Pôles de compétitivité ; Innovation sociale ; Attractivité territoriale durable

The territory represents a primordial variable that competitive clusters rely on to be able to function. In this sense, the territory represents not only a geographical area where activities take place, but also a human construct (Hernandez, 2017) initiated by the players. The work of Di Méo (1998, 2006, 2008) proposes the territory as both a social space (*“places in the biosphere that are woven together by the interlacing of social and spatial relationships that is characteristic of the human groups which occupy them, produce them, or merely covet them”* [trans.], 1998, p.107) and a place of experience, referring to the subjective relationship that the individual maintains with the land. Individuals become imbued with values that enable them to belong to a group and fit in with its practices and representations. We speak then of ‘territorialisation’ (Hassenteufel, 1998), where the players *“participate intentionally in a process that has territorial implications”* [trans.] (Di Méo, 2008, p.6), connected with the particularities of the territory (Hassenteufel, 1998). According to Di Méo (2008), the dynamic of these aggregates of players refers back to configurations of action systems founded on collective action. To take this further, Saucier *et al.* (2010), in a diachronic conception of the territory (Brétéché, 2011; Arnaud, 2012) consider it to be the product of collective action. It therefore represents not a self-reproducing autonomous institutional framework but a space that is constructed and produced by the action of the players with the aim of achieving transformation. In other words, the territory proves to be a socio-economic construct in which interactions between

local players take place, with the aim of carrying out a joint project to develop the territory (Gilly & Perrat, 2003; Leloup *et al.*, 2005).

Competitive clusters were created in 2004 in order to develop local competitiveness through technological innovation. To achieve this, the industrial policy of competitive clusters brings territories, innovations and industry into contact with each other and fosters their interactions in order to implement various projects. Thus competitive clusters as territorialised networks of organisations represent a tool for local economic development. Competitive clusters have an obvious link with the territory since their mission is to boost the territory, and they use the territory to develop technological innovations and projects. Thus the territory represents a variable that is inherent in the functioning of these networks.

It is usually considered that competitive clusters add value to technological innovation. In this research, however, we chose to take the opposite view, adopting a sustainable perspective of the model by questioning social innovation and sustainable territorial attractiveness. The aim of this article is to show how competitive clusters make use of the territory in order to develop social innovation and form part of a sustainable territorial perspective.

This article begins by looking at the competitive cluster as a subject of study by highlighting the importance of the territory in its functioning and governance,

and goes on to focus on the sustainable perspective through the concepts of social innovation and sustainable territorial attractiveness, before presenting proximity and its different forms as a lever. Details are given of the research methodology applied, and study cases are described. Lastly, we illustrate the vision of the territory defended by the players in the competitive clusters, and highlight the sustainable and territorial perspective in competitive clusters through the clusters' projects.

1. THE TERRITORY IN COMPETITIVE CLUSTERS: a sustainable perspective?

Competitive clusters maintain an obvious and particular link with the territory since it forms part of their functioning (territorial governance) and their mission (local economic development). Moreover, competitive clusters make use of the territory, its resources and its players to promote technological innovation. The territorial perspective inherent in the very essence of the clusters may also, however, find expression in the form of social innovation and sustainable territorial attractiveness. Lastly, the competitive cluster as a network supposes proximity among the players that may then become a lever in relation to this sustainable social vision.

1.1. **Competitive clusters as territorialised networks of organisations: between territorial governance and local economic development**

From the viewpoint of local development, territorialised networks of organisations bring together different forms of networks such as industrial districts in Italy (Becattini, 1992), local production systems (Aydalot, 1986), and competitive clusters (Chabault, 2009). It is the latter that represent the subject studied in the present research; according to Barabel *et al.* (2009), they are systematically bound up with the concept of a territorialised network.

One of the features of territorialised networks of organisations is that they form part of a specific and hence delimited territory. Thus, in these networks, the organisations are encouraged to collaborate and develop partnerships in order to facilitate the exploitation of resources. In this way, both commercial and non-commercial relations are developed, and this generates interdependencies among the players involved in the networks. Let us return to the definition given by Ehlinger *et al.* (2007, p.156): “*these networks [define themselves] as coordinated sets of heterogeneous players who are geographically close to each other and cooperate and participate collectively in a production process*” [trans.]. For their part, competitive clusters “*bring together in a clearly identified territory and on a given theme a number of large and small businesses, research laboratories, and training establishments. Their vocation is to support innovation and promote the development of particularly innovative collaborative research and development (R&D) projects*” [trans.]¹. In other words, competitive clusters, in their capacity as territorialised networks of organisations, are based on the co-construction of projects that involve a number of players who are hierarchically independent in a given territory (Balas, 2010; Chabault, 2010).

The networks constitute a particular organisational form, beyond market and hierarchy (Podolny & Page, 1998), that advocates specific governance (Enjolras, 2010; Torfing *et al.*, 2012) because of the coexistence within them of heterogeneous individual players whose aims are usually divergent (Bocquet & Mothe, 2008, 2009). Thus we are not in the presence of one player in a position of superiority but in a “*pluralist, interactive approach to collective action*” [trans.] (Chevallier, 2003, p.207), in which all the players must be taken into account and integrated in the decision-making. This then supposes blurring the line not only between the public and private sectors but also the line between the different levels (national, regional, local) (Chevallier, 2003). In this sense, governance qualified as ‘horizontal’, ‘interactive’ (Torfing *et al.*, 2012) or even ‘systemic’ (Bevir, 2006) makes it possible for the various players to make their points of view heard and come up with consensual solutions to their economic, social and political aims (Enjolras, 2010).

¹ [URL: <http://competitivite.gouv.fr/politique-des-poles-471.html>], consulted on 25 September 2015.

More specifically, with regard to territorialised networks of organisations, Chabault (2007) highlights partnership governance by referring to the diversity of the players present in competitive clusters, particularly since they represent collaboration among the worlds of research, industry and training. This partnership governance claims to be integrative, since it is based simultaneously on relational, institutional and territorial dimensions. Since this study aims to highlight the role played by the territory in the functioning of competitive clusters, we shall concentrate on territorial governance, which is considered “*particularly suited to clusters*” [trans.] (Bocquet *et al.*, 2009, p.232).

‘Territorial governance’ refers to the methods for regulating the players in a given territory (Ehlinger *et al.*, 2007); it revolves around four schools of thought (Michaux, 2011:

- One approach founded in the economic sciences, referring to the governance of territorialised networks of organisations, such as competitive clusters for example.
- One approach founded on the territorial economy, linking the territory and the notion of proximity.
- One approach founded on political science, involving opening up public decision-making to concertation and the participation of civil society.
- One approach founded on public management, involving public action and its managerial aims through the parties involved.

Governance of this type is based on the idea of a process, with a collective dimension involving the cooperation of local players (Gilly & Perrat, 2003). Thus territorial governance ensures cooperation among players who are geographically close to each other but from different organisational fields; as a result, their aims, strategies and timescales diverge, although they share the common aim of carrying out a local development project (Gilly & Wallet, 2001; Leloup *et al.*, 2005; Bocquet & Mothe, 2008).

Let us now look at the purpose of these networks from the viewpoint of economic development.

The competitive cluster represents a territorialised network of organisations in its capacity as a regional system of innovation, promoting interaction among local players, boosting the regional economy, and encouraging innovation. In this sense, the current of the innovative environments brought together in the GREMI (*Groupe de Recherche Européen sur les Milieux Innovateurs* - European research group on innovative environments) represents a starting point for territorial development and a regional system of innovation (Moulaert & Sekia, 2003). These are defined as “*territorialised group[s] in which interactions between economic agents develop through their learning of multilateral transactions that generate externalities specific to innovation and the convergence of learning towards increasingly effective forms of joint resource management*” [trans.] (Maillat, Quevit & Senn, 1993, p.9). The environment is thus considered as an area favourable to innovation because of the economic relations linking the players within it (Klein, 2014). The regional system of innovation (Cooke, Uranga & Etzebarria, 1998), which represents a branch of the national innovation system (Lévesque, 2010), highlights innovation as the main element of regional economic dynamism (Doloreux & Bitard, 2005) among private undertakings, public-sector institutions, and research centres (Klein, 2014). As a territorialised network of organisations and a factor of public industrial policy, the competitive cluster was created in order to address France’s lack of competitiveness. By promoting technological innovation and bringing local players in both the public and private sectors into contact with each other, it boosts the territory where it is located. The aim of local economic development as pursued by competitive clusters takes the form of calling on players from within the territory: the creation of wealth permitted by competitive clusters is indeed a local perspective. For example, the local economic action carried out by the members of a cluster in a given territory may generate beneficial effects for employment in the territory or for the territory’s image (Demazière, 2002). In this sense, from an economic and urban point of view, the mission to develop territories where there are competitive clusters is an element of the perspective of territorial attractiveness.

We have pointed to the classic role played by the territory in the functioning of competitive clusters as an element of governance and as a leitmotiv. Thus competitive clusters are founded on their territory, and call

on local players in order to boost that territory. This is made possible by the development of technological innovation, although competitive clusters may also address social and sustainable issues both because of and to the advantage of the territory.

1.2. Social innovation and sustainable territorial attractiveness in competitive clusters

The aim of the competitive clusters as a regional system of innovation is to mobilise technological innovation in order to achieve their aim of local development. But there are other forms of ‘non-technological’ innovation, such as social innovation, which are also to be found in competitive clusters. We chose to look at social innovation since this makes it possible to analyse competitive clusters from the viewpoint of territorial sustainability. The aim of social innovation is indeed to improve the well-being of the community, by addressing social needs (Harrisson & Vézina, 2006) from a territorial perspective. According to Hiller *et al.* (2004), social innovation expresses itself in the field of ‘Integrated Area Development’ with regard to territorial development. According to this approach, territorial development represents a local strategy that takes account of local historical particularities and the local trajectory. For this territorial development to occur, it is necessary to consider all the players and parties involved: not only the players in the socio-economic world, but also politicians and the general public. Thus territorialised social innovation (Richez-Battesti, 2008; Richez-Battesti *et al.*, 2012) becomes part of a local system requiring cooperation on the part of the players within the territory, and can be a source of territorial development (Klein, 2014). In this sense, the private players (businesses), public players (at the national, regional or local level) and social players (cooperatives, associations) set up new collaborations in the form of partnerships on the basis of a common territorial identity (Klein, 1992).

In other words, the process of social innovation emerges from the territory thanks to the local players and their desire to carry out territorialised projects and experiments. This is environment-driven social innovation (Cloutier, 2003) aimed at developing a territory through local partnerships where the “*mode of*

organisation and structure makes it possible to come up with original solutions to economic and social issues” [trans.] (Cloutier, 2003, p.15).

Thus this notion of territorialised social innovation is part of a perspective of sustainable development. More specifically, ‘sustainable’ territorial attractiveness makes it possible to take account of the purpose, multidimensionality and particularities of the territory (Arnaud, 2012). Soldo (2010) and Arnaud (2012) propose a framework reference for sustainable territorial attractiveness based on three criteria, which has been taken up and adapted to the economic context by Serval (2015). Firstly, political attractiveness relies on the continuity of the public action once it has been instigated. It reflects a strong relationship between an economic activity and the political dimension that supports it. Secondly, economic attractiveness is based on the continuity of the economic development model and hence on an appreciation of economic effects and capacity for innovation. Lastly, socio-civic attractiveness reinforces social cohesion and improves quality of life by creating a feeling of belonging to the territory. Thus the concept of sustainable territorial attractiveness allows a convergence of the exogenic and endogenic dynamics, so that we may consider the aims of territorial development (Serval, 2015).

Can the competitive cluster in its capacity as a tool for local economic development demonstrate sustainability through either sustainable territorial attractiveness or social innovation? The proximity of the players within the networks can contribute to the social and sustainable perspectives of the clusters.

1.3. Proximity as a level of social innovation and sustainable territorial attractiveness

The implementation of the territory’s projects by territorialised networks of organisations supposes proximity among the players.

The French school of proximity supposes the existence of territorialised networks of organisations in general (Parodi, 2005) and competitive clusters in particular (Bouabdallah & Tholoniati, 2006; Gosse &

Sprimont, 2010), updating the virtues of the industrial district (Asselineau & Cromarias, 2010; Serval, 2015), for example regarding coordination of the players (Zimmermann, 2008). There is more than one form of proximity: it may be geographical, or organised.

Geographical proximity brings together players who share the same space, which facilitates their coordination (Talbot, 2008; Zimmermann, 2008). A competitive cluster is located within a particular geographical space. The aim of the projects developed by the cluster or its members is to boost that particular territory. But geographical proximity presupposes judgment with regard to distance (Rallet & Torre, 2004). What can be considered 'distant' or 'close at hand'? Is the perimeter of a competitive cluster's action considered by its members as being limited or extensive? This is why organised proximity, which considered the members' interactions in relational terms, is also brought into play (Rallet & Torre, 2004; Bouba-Olga & Grossetti, 2008). This human proximity is based on a 'logic of belonging' that facilitates exchanges thanks to the introduction of rules of behaviour or routines and a 'logic of similitude' which is based on a system of representations, beliefs or knowledge that the players share (Rallet & Torre, 2004). These different proximities, which must be apprehended in a complementary fashion, facilitate the networking of the local players and more particularly the conducting of a project. The principle behind the competitive cluster is that it should develop territorial projects in order to develop and boost the territory. Thus these different proximities must be used in order to best address the needs of the territory via projects, thereby contributing to social innovation and the sustainable territorial attractiveness of the competitive clusters.

2. GATHERING AND ANALYSING DATA in the framework of a multiple case study

To show the coherence of our research, we made use of the qualitative research design proposed by Maxwell (2009), defined as an underlying scheme that governs the function and development of the research being carried out. We shall now describe our methodology and

the approaches and techniques we used to gather and analyse our data, and the choice of our fields of study.

2.1. Methodology

Our research, via our questioning described in the introduction, addressed a desire to understand competitive clusters and the link they maintain with the territory. In order to achieve the most comprehensive understanding possible as we gathered the perceptions of the players, we adopted a qualitative approach (Miles & Huberman, 2003): qualitative methodology enabled us to build up an understanding of the clusters from the viewpoint of both the territory and the resulting innovations.

Qualitative research generally uses case studies for gathering data (Royer & Zarlowski, 2014) because it aims to study contemporary phenomena in their context (Eisenhardt, 1989). Thus the case study represents "*a privileged strategy for accessing reality*" [trans.], of which the principal ambition is understanding (Gombault, 2006, p.32).

Our research work was based on a multiple case study: two cases, in fact. This involves 'replication' (Yin, 2013, p.99), since the two cases present a number of similarities. Moreover, the data was gathered and analysed in exactly the same way in both cases. David (2004, p.2), taking up the work done by Stake (1994), gives prominence to the collective case study aimed at "*better circumscribing a phenomenon on the basis of multiple cases, from a relatively exploratory viewpoint*" [trans.], with an instrumental purpose. With our multiple case study, we propose focusing on the territory, which may be considered a defining element in the functioning of the clusters and a source of encouragement for innovation.

The instrumental purpose of the case study (David, 2000) lies in the proposition of sustainable territorial attractiveness as a route for developing clusters, linked with the management issues the players reported to us. Lastly, our multiple case study is part of an explanatory logic, always with the desire for understanding the phenomena being studied.

Regarding the gathering of data, we opted for a triangulation of primary and secondary data (Yin, 2013),

namely documentation and interview. Secondary data represents ‘data which already exists’ (Baumard *et al.*, 2014, p.290). It corresponds to the clusters’ presentation literature, activity reports, and documents on the financial support granted by the ‘PACA’ Region, documents which we were able to obtain during our interviews. This documentation not only provided us with a better understanding of the functioning of the competitive clusters as a whole; it also enabled us to begin to make out their differences, taking into consideration the territory in which they are located.

We then carried out thirty-one semi-directive interviews, which were transcribed and analysed. We interviewed administrative agents of the clusters, members of their governance (administrative boards), and member entrepreneurs. The interviews were analysed using NVivo 11 software (Bournois *et al.*, 2002), with an analysis of themed content (Bardin, 2005) and *a priori / a posteriori* coding (Allard-Poesi, 2002).

The better to illustrate the choice of our cases, we propose a presentation of the field of our research.

2.2. Presentation of the cases: selection of two competitive clusters

The ‘Provence-Alpes-Côte-d’Azur’ (PACA) Region is strongly committed to a policy of competitive clusters, which it supports financially and actively in terms of new projects. We counted ten competitive clusters present in the ‘PACA’ Region, in a number of areas of competence. For reasons of anonymity, the competitive clusters will not be named: we shall refer to them as Cluster 1 and Cluster 2. It should be noted that the choice of numbering in no way implies a criterion of the value or importance accorded to the two competitive clusters.

The two competitive clusters selected are located in the Arbois-Mediterranean environmental technology centre (*Technopôle de l’Environnement Arbois-Méditerranée*) in Aix-en-Provence, which is home to six competitive clusters.

Cluster 1 was created in 2005, as soon as the national policy on competitive clusters was set up. It was founded by three active members: the atomic energy commission (*Commissariat à l’Énergie Atomique*) in Cadarache,

the French national electricity producer and supplier EDF, and the agency for the economic development of Corsica (*Agence de Développement Économique de la Corse - ADEC*). It is active in the development of energy systems to take the place of fossil energies.

Cluster 2 was formed by the merger of two competitive clusters dating back to 2015, and addresses a broad range of themes. It is active in the field of global security and defence, responding to safety and security issues in various economic sectors (health, industry, environment, food industry, etc), involving ordinary citizens as well as the State and territorial communities.

Researchers make every effort to design their project and coordinate all the operations connected with conducting their research in a coherent fashion. The research process must be “*capable of devising and implementing a system for elucidating reality, i.e. a working method*” [trans.] (Quivy & Van Campenhoudt, 2006, p.7). We therefore offer a definition of our global approach to the methodology adopted, before continuing with the presentation and analysis of our results.

3. TAKING THE TERRITORY SPECIFICALLY INTO ACCOUNT: clusters’ projects as facilitators of innovation

In our first section we explained that the territory represents an important variable in the functioning of competitive clusters. We therefore felt it was essential to question the players about this link. Apart from this link, it is in its members’ projects that the territory truly expresses itself, and where we find the sustainable perspective of the competitive clusters through social innovation and sustainable territorial attractiveness.

3.1. The territory in competitive clusters

Firstly, the link with the territory is made possible thanks to the ‘Region’ level, which maintains strong links with the clusters. The ‘Sud’ Region is indeed

much in favour of the competitive cluster tool as an aid to economic development. The Region and the clusters maintain strong, regular links in their common aim of boosting the territory. The Region can count on the competitive cluster as a tool of local economic growth: *“The Region relies on us a lot to act as an assistant in project management [...] We are a kind of operational team the Region can call on for energy issues”* [trans.] (project engineer). Because the ‘Sud’ Region and more particularly its new executive *“seems quite clued up about the economy and job creation, so it’s behind us when we do things that meet its criteria”* (senior director of Cluster 1). These links between the two entities are qualified as *“historic”* by one entrepreneur; the ‘Sud’ Region has always supported competitive clusters in strategic and financial terms, regardless of political colouring: *“We have always had political support from the Region”* (senior director). Moreover, to ensure that the actions carried out by the clusters and their members match the Region’s strategic policies, the Region has launched a number of ‘operations of regional value’ (*Opérations d’Intérêt Régional* - OIR). These OIR represent a tool for both encouraging growth and employment and increasing the territory’s attractiveness. There are twelve OIR, corresponding to the twelve topics and areas of excellence supported by the Region and with comparable advantages in terms of competitiveness. The OIR have been drawn up in collaboration with the competitive clusters, which had every interest in the OIR matching their own areas of interest. Since the OIR are connected with the clusters’ fields of action, the clusters are able to develop projects in these areas and be assured that they are addressing the needs of the territory and boosting it in line with the desires of the Region. Although Cluster 2 notes real dynamism on the part of the Region in assisting businesses and promoting economic development: *“I think the current head of the Region has a really pro-business approach”* [trans.] (senior director), it would seem that the links between the Region and this cluster are not as strong as they used to be: *“There is always a lot of consultation and we are closely involved, but the institution of the Region these days is more of a force for making proposals”* (deputy director). In the past, the Region used to consult the clusters frequently in constructing its regional strategy, which was truly the result of co-construction between the clusters and the Region, with highly participatory exchanges. The economic strategy drawn up by the Region was even inspired by the clusters’ route maps.

Beyond these OIR, which establish an obvious link between the competitive clusters and their territory, each cluster expresses the link in its own way. We shall see successively what view Cluster 1 and Cluster 2 have of the territory.

The senior director of Cluster 1 assures that the aim of the competitive clusters is *“basically, really to contribute to regional economic development”* [trans.]. This cluster is involved in a number of different territories - the ‘Sud’ Region, the Corsica Region, the Principality of Monaco, Guadeloupe and Réunion - which it must serve, according to one member of the administrative board: *“The territory tries to rely on these competitive clusters”* [trans.]. The competitive cluster represents an *“assistant in boosting the territory”* [trans.] (project engineer) through the networking of local players and the development of projects that also create synergies among the territories. This makes it possible to strengthen the local economic fabric. In addition, this local development involves creating new jobs: *“The first thing is to contribute to economic development in the Region, in the territories - it means encouraging the economy and employment”* [trans.] (project engineer). When businesses are helped to set up projects and break into the market, they are able to create new jobs in the local area. This tends towards a relocation of requirements in places where the territory’s players (small and large undertakings) are networked, with the result that they localise their expenditure in the local area and employ local people, thereby completing a local economic circuit. The territory is represented by its players, and the competitive cluster is built with the territory’s players, who represent the *“players of the industrial economic terrain [...] the players of real life, those who know what is possible”* [trans.] (member of the board of administration). In this sense, the cluster should be considered in political terms as a place where information may be gathered in order to develop actions connected with local economic development.

Cluster 1 is particularly keen to address specifically the needs of the different territories: *“We place ourselves in the service of the territories [...] so yes, we are influenced in the projects we head and try to bring about. Of course the situation influences our territory”* [trans.] (senior director). This influence also comes from the policies representative of the institutions that give visibility to the needs of the territory.

Cluster 2 is also seen as a tool for local economic development, but one that specifically makes it possible to create territorial attractiveness. In fact, Cluster 2 uses the territory as a place for experimentation. The ‘PACA’ Region is a territory where risks are multiplied: it is geographically located between sea and mountain, and contains nuclear sites and military arsenals: *“That’s all a fairly cool playground. We boost the territory to attract experimental activities that in turn generate economic activity”* (project engineer).

Some interviewees were nevertheless sceptical about the cluster’s regional boundary. Cluster 2’s skill base is indeed national: the field of global security concerns the whole country, with minimal particularities differentiating the various regions. But like any competitive cluster, Cluster 2 has a specific territory in which it may take action. It would appear that its territory is not currently clearly defined. Cluster 2 is centred in the ‘Sud’ Region but has also developed a number of projects in the ‘Midi-Pyrénées’ Region, which has now been merged with the ‘Languedoc-Roussillon’ Region (where Cluster 2 did not have any projects). Moreover, the cluster is in negotiation with the ‘Auvergne-Rhône-Alpes’ Region for a number of

other projects. So what about Cluster 2’s territory, between the reform of the administrative regions in France and the field of security, which affects every part of the country?

From the point of view of the link between territory and competitive clusters, this is expressed firstly at the regional level. Moreover, interviewees from both clusters pointed to the role of the cluster as a tool for local economic development. We note nevertheless that Cluster 2, in this spirit of boosting the territory, insists on the territorial attractiveness it allows by proposing venues for experimentation to various entities nationwide in order to develop potential partnerships with other regions or competitive clusters. Moreover, Cluster 2’s borders appear less clear-cut than those of Cluster 1. The administrative reform of the regions has blurred its geographical scope and as a result the cluster seems willing to develop partnerships with other regions, which would have the consequence of expanding its territorial borders. Cluster 1, for its part, although it is located in a number of insular regions, is clear about its perimeter of action. This comes across in what interviewees said, since Cluster 1 insists strongly on the particularities

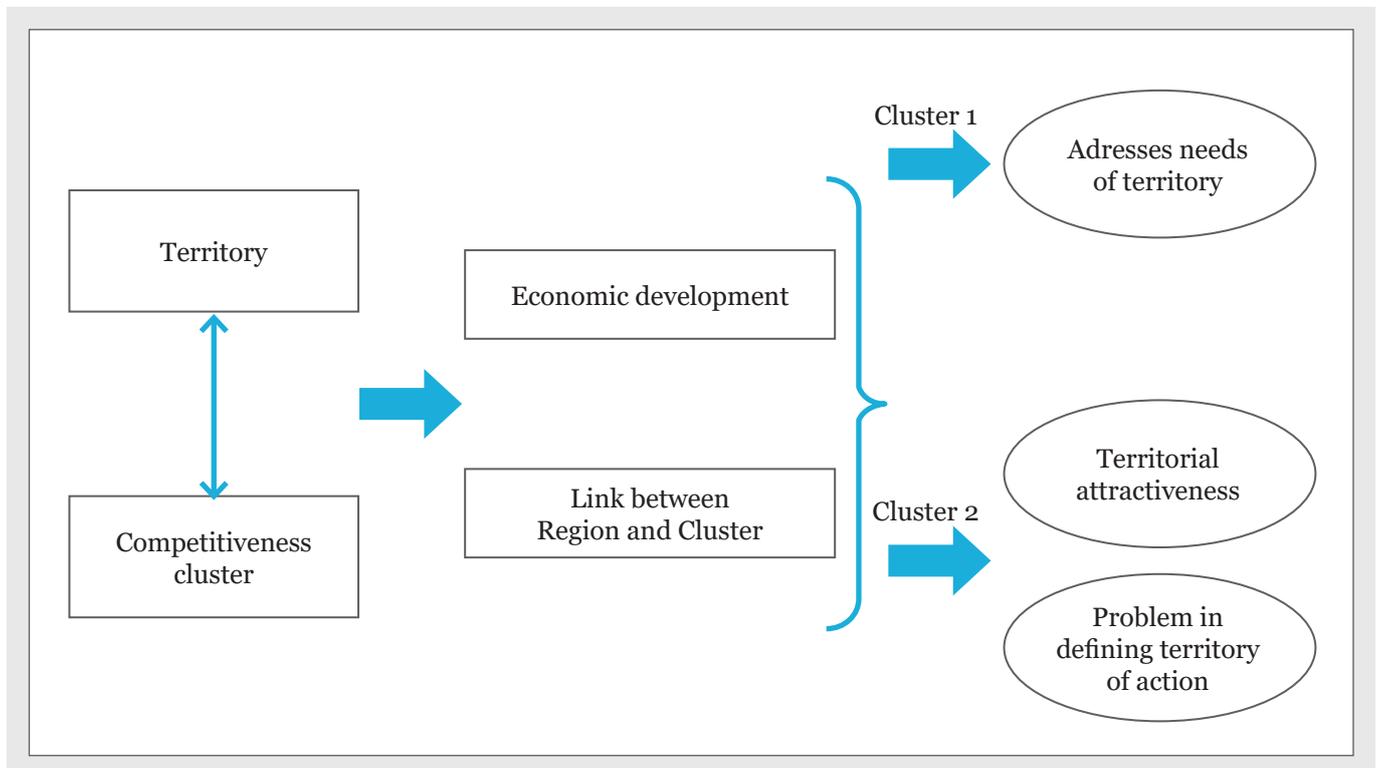


Figure 1 – The link between territory and competitive clusters

Source: author

of the territories where it operates, and there is visibly real concern regarding the particularities of the territories.

We propose below a diagram summing up the way competitive clusters take territory into account that brings out both their similarities and their divergences.

The local economic development and boost to the territory afforded by competitive clusters are expressed in the projects carried out by the clusters and their members. It is also in these projects that we see once again this idea of sustainability that we shall now highlight.

3.2. Competitive clusters for territorial sustainability

It is the competitive cluster's projects that drive this sustainable perspective, because the technological innovations developed in the projects have repercussions on both the territory and its inhabitants.

3.2.1. Structuring projects

The term 'structuring project' refers to a project that is driven by the competitive cluster itself and not by one or more of its members. Such projects are on a relatively large scale, creating an entire local ecosystem. According to the interviewees, driving a structuring project creates a local economic dynamic.

For Cluster 1, the 'Flexgrid' structuring project constitutes the Region's showcase in the field of smart grids and hence develops a certain territorial attractiveness: "Actually, it makes it possible to contribute to the territory being an attractive and pleasant place to live" [trans.] (project engineer). The Flexgrid project brings a local economic activity into the area via the projects it incorporates: a structuring project brings together several dozen projects, with local undertakings participating in its achievement.

Similarly for Cluster 2, the development of the territory involves structuring projects. The Cluster is driving the development of the airship sector via the 'Airship Village' structuring project: "The programmes are all in the airship sector. What will it be like? Well, it will create a wave of opportunities for everyone in the

Region" [trans.] (project engineer). This structuring project positions Cluster 2 as a key player in the development of the airship sector and mobilises a number of different players in the territory, thereby creating real local dynamism. The project does indeed mobilise both public-sector players (such as territorial communities) and local businesses: more specifically, it includes the air force and a number of airports.

We have just pointed out that structuring projects represent opportunities for development and territorial dynamism. This is because such projects bring together different local players in a single project, and their proximity in terms of their field of activity encourages them to work together. In addition, for the small businesses involved, participating in a project of this type represents a business opportunity and holds out the prospect of long-term growth.

3.2.2. The projects of members of competitive clusters as vectors of sustainability

The Flexgrid structuring project set out above is developing a number of technological innovations connected with renewable energies and their use. These solutions are beneficial for both users and the territorial communities, as they contribute a degree of well-being to society in the field of energy. This structuring project enables users to save energy, and whole neighbourhoods will be incorporating an energy mix when they are renovated: "You take a block of flats in the north of Marseille, often occupied by underprivileged families; you install solar panels on the roof, you use that power, you combine it with energy-efficient fittings, and you end up using less energy. There are also classes in managing energy better. It all works towards cutting energy bills, and that in turn will free up purchasing power for these poorer people" (senior director).

Cluster 1 has also focused on island energy, which calls for original solutions directly linked to the particularities of these territories. In this sense, the representatives of the agency for the economic development of Corsica (*Agence de Développement Économique de la Corse - ADEC*, a founder member of Cluster 1) are working towards recognition of the realities of the Corsican territory in the functioning of the cluster and in drawing up its strategy: "For ADEC, it means

being aware of the territory and knowing what it is really like [...] We also have a duty to highlight and point to a certain number of particularities so that its action regarding Corsica is as effective as possible" [trans.] (member of the board of administration). This involves encouraging projects that address the issues facing an area that is not interconnected, and developing alternative solutions in terms of sources of supply and energy production.

With a view to territorial development, Cluster 2 has set up, with the help of the local authorities (of the *départements* and the urban areas), a project for developing the territory in the Avignon area. This is an 'incubator' at Avignon's airport, where businesses in the aeronautics sector will be able to find the workshops, hangars, and runways for take-off and landing they need. In its initial phase, this mobilises local businesses, but it will also open up the territory of the 'PACA' Region to other Regions that would like to take advantage of this business centre.

Moreover, Cluster 2 is also developing a number of projects directed at players in the civil security sector (fire brigade, police, etc). The technological innovations created for these players take the form of improvements in their equipment, including textiles for firefighters' clothing, and connected ambulances. These technological innovations address territorial particularities: the fire risk is high, and the mountainous geography can hamper radio communications during emergency interventions. Thus there is a degree of intention to improve the well-being not only of the players immediately involved but also, by its knock-on effect, that of local residents. It should be noted that these innovations mobilise local players in the field of civil security, since the Region's fire and rescue service and the fire brigade's officer training college are participating in the project tests.

4. DISCUSSION

The participation of competition clusters in the OIR - projects being implemented collectively in order to address the particularities of the territory - highlights the strong link that exists between the clusters and their territory. Thus we have here decisive evidence of the territorial governance that competitive clusters

implement and of their role as a tool for local economic development. The same applies to the diachronic conception of the territory in the interests of territorialisation since competitive clusters, by the collective action of their members, participate in the construction of the territory while respecting its particularities.

Regarding the social innovation that competitive clusters may produce, it is in the projects that this is to be found. As we saw in the presentation of the results, the creation of original contextualised solutions that improve the well-being of the population is to be found in the projects carried out by competitive clusters. The various projects that we indicated for Cluster 1 and Cluster 2 offer improved well-being and better quality of life for members of the public and subsequently the implementation of social innovation. Moreover, these social innovations are indeed territorialised since they address territorial issues (high fire risk in the Region, non-connected territory) and mobilise local players in favour of developing socially innovative solutions.

As for sustainable territorial attractiveness, it also represents one of the purposes of the competitive clusters via its three levers (political, economic, and socio-civic). Thus political attractiveness refers back to the strong link that exists between the regional level and competitive clusters. As we have seen, the 'Sud' Region supports competitive clusters and relies on these networks in constructing its strategy for economic development. In this sense, the OIR show us once again the continuity of economic action since they are co-constructed, and the players have the possibility of innovating in areas with high potential. Lastly, socio-civic attractiveness is expressed as we have seen via the projects and their social scope.

Nevertheless, even though social innovations can be brought to the fore via the clusters' projects, and even though the triptych of sustainable territorial attractiveness may constitute one of the purposes of the competitive clusters, it would seem nevertheless that this new vision of the clusters is not being taken into consideration by the players. We think that this expanded and sustainable vision on the part of the competitive clusters may constitute a perspective for developing the clusters' model so that they renew themselves. Indeed we advocate competitive clusters constructing a joint vision, as this gives the organisation meaning and represents its ideal for the future (Tremblay *et*

al., 2005). The construction of this vision specific to the organisation is an indication of mobilisation. Its aim is “to rally energies, bring together aspirations, arouse commitment on the part of the members of the organisation and bring them to adopt the initiatives necessary for achieving the desired future” [trans.] (Levin 2000; Tremblay *et al.*, 2005, p.69). For competitive clusters, this vision may constitute sustainable territorial attractiveness by making the members aware of the positive repercussions the clusters’ projects may have, not only for the territory but also for users. It would seem that the clusters are aware of the economic spin-off of the projects in the territory; the strategic orientations of the clusters and the territories must therefore move in the same direction. On the other hand, we believe that the clusters do not fully realise the knock-on effects their activities may have on users. Humanist values have a mobilising effect, as they act on the organisational empowerment of individuals (Tremblay *et al.*, 2005). For the clusters’ members, and more specifically those that are businesses, being aware that their projects are contributing to an improvement in the wellbeing of users may represent a particular leitmotiv. Thus the construction of a vision of the clusters might include both these areas: the territory, and users. This joint vision could be included in the strategy of competitive clusters.

Proximity may then constitute a lever to reinforce, beyond the link with the territory that is indeed present and taken into consideration, a sustainable perspective from a social and territorial point of view. Firstly, geographical proximity is indeed expressed in terms of belonging at the competitive clusters studied at the technology centre (*Technopôle*) in Arbois. This type of proximity encourages the setting up of collective projects among competitive clusters and hence ‘inter-clustering’, but it does not make it possible to realise the sustainable aspect of the competitive clusters. If we wish to take awareness of the territory further in the functioning of the competitive clusters, ‘organised’ proximity must be brought into play. Thus the sharing of beliefs based on a degree of solidarity among the territory’s economic players would make it possible to create a true territorial community on the basis of the values of taking account of the particularities of the territory and improving the well-being of its inhabitants.

CONCLUSION

Throughout this research we have highlighted the fact that the territory represents a vital element in the functioning of the clusters, and more specifically in their projects. By virtue of its capacity as a territorialised network of organisations, a competitive cluster is indeed part of a specific territory for the purpose of completing projects and is able to call on local players to respond to territorial issues. Competitive clusters are also attached to their territory, since they contribute to its development and its attractiveness in their capacity as a tool for local economic development. This is a classic vision of competitive clusters that has already been highlighted in the literature. The originality of our research lies in highlighting a social and sustainable perspective for sustainable competitive clusters. Through their projects and the technological innovations they develop, these networks are indeed also capable of having sustainable territorial development as their purpose. Thus we have highlighted social innovation and the concept of sustainable territorial attractiveness. However, this social, territorial and sustainable perspective of competitive clusters is not taken into account by the players, who do not realise the potential clusters have - this could represent an opportunity for the networks. More globally, this sustainable perspective of competitive clusters as instruments of public action calls into question the concept of the public action network by situating itself on the cusp of different sectors and analysis frameworks, both public and private, that could provide answers to the increasingly complex problems facing contemporary societies (Thatcher, 2014).

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