Cluster Governance and Institutional Dynamics
A Comparative Analysis of French Regional Clusters of Innovation

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Résumé :

Governance is an issue often neglected by studies on clusters even though recent empirical studies point out the potential role of cluster governance in the creation and integration of innovation networks within cluster. However, no insight is provided as to how, concretely, cluster governance manages to sustain innovation. Drawing on the concept of institutional work, we develop an integrative framework of institutional practices that cluster governance can implement to create a specific environment conducive to institutional dynamics and enhanced collaboration for innovation. Three levers – political, normative and cognitive – and 8 sets of institutional innovation practices are suggested. We apply this conceptual grid to the comparative analysis of three French clusters of innovation: one technopole and two competitiveness clusters. The findings show that 1) the three cluster governances activate all institutional levers but with a high variation of intensity, and 2) this intensity differences match the innovative performance of the clusters.

Mots-clés : Innovation; Cluster ; Governance; Institutional work; Institutional innovation practices

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Introduction

Governance is an issue often neglected by studies on localized inter-organizational networks or clusters (Bell *et al.*, 2009; De Propris and Wei, 2007; Provan and Kenis, 2007). Nonetheless, recent empirical studies point out the importance of local or territorial governance in the creation and integration of innovation networks within clusters (Bocquet and Mothe, 2010; Visser and De Langen, 2006). Indeed, collaborative dynamics are not necessary part of the clusters' DNA, specifically for clusters of SMEs with strong individualistic culture. Cluster governance, first broadly defined as a steering and managing structure of the territorial network, might act as a catalyst of latent relationships between co-located actors of the cluster: small and large firms, public or private research laboratories and educational institutions.

However, researchers' insights into social and institutional mechanisms that drive innovation within these localized inter-organizational networks have been very limited till now. More specifically, very few studies have dwelt in detail on the concrete practices implemented by cluster governance to develop a specific institutional environment conducive to greater collaborative and innovative dynamics (Bell *et al.*, 2009; Lawrence *et al.*, 2009). Yet this preoccupation is of crucial importance for both academic research and government policy initiatives and programs on clusters and regional innovation systems (Uyarra, 2010). It is this issue, which the paper seeks to address: what are the institutional practices that cluster governance can develop and implement to foster an appropriate organizational and institutional environment conducive to enhanced firm's innovation?

This paper draws both on the *Knowledge-based-View of Clusters* (KBVC), which places primary emphasis on cluster governance and knowledge exchanges among cluster firms (Arikan, 2009; Bahlmann and Huysman, 2008; Maskell, 2001) and on the concept of I*nstitutional Work* (Lawrence and Suddaby, 2006). Embedded in this theoretical background, we then develop an integrative framework that eases the identification of institutional innovation practices implemented by cluster governance. Such identification aims at filling a

void in the literature as to whether and how governance can sustain firms' innovation within clusters.

An empirical comparative analysis is made between three French "institutionalized clusters of innovation" (Ben Letaifa and Rabeau, 2013), all issued from a top-down government policy: a technopole, Savoie Technolac, and two newly created "competitiveness clusters", Axelera and Imaginove, located in the Rhône-Alpes region. Drawing on a qualitative analysis, this study compares the way cluster governance implements institutional practices of innovation and analyzes their impact on the cluster firms' innovation.

The paper proceeds as follows. The next section presents theoretical insights on cluster governance and institutional work and develops the integrative analysis framework used to identify institutional practices of innovation. It also includes our study setting and methodology. Present results and discussion will be outlined in a second section. Finally, conclusions, limitations and implications are discussed.

1. CONCEPTUAL FRAMEWORK AND METHODOLOGY

Clusters are "*geographic concentrations of interconnected companies and associated institutions in a particular field*" (Porter, 1998: 78). This definition emphasizes two important dimensions for cluster governance: first, the *network* dimension and second, the geographic or more precisely the *territorial* dimension. A third dimension, ie. *knowledge management*, is highlighted by the emergent knowledge-based view of clusters – KBVC (Maskell, 2001) which conceptualizes clusters as "*venues of enhanced knowledge creation*" (Arikan, 2009: 658).

1.1. Cluster governance

Cluster governance is a relatively new and rich concept. The term of governance first appeared in the economic discourse in the 90s, mostly with regard to corporations' internal distribution of power (Jessop, 1998). Corporate governance has indeed long dominated theoretical approaches of governance. It offers a hierarchical view of the coordination of actors' interrelations: governance being the means by which order is restored, conflicts regulated and mutual gains realized (Williamson, 1996). Critical role of governance, for private as for public management, is to monitor and control the behavior of management (Provan and Kenis, 2007).

Progressively a parallel literature has developed on network governance, in order to take into account the complexity and heterogeneity of independent actors interrelating within the net-

work (De Propris and Wei, 2007; Jones *et al.*, 1997). Analyzing regional cluster organization, Bell *et al.* (2009) distinguish two different types of governance: relational and hierarchical. Relational governance refers to inter-organizational decision-making based on relational norms like implicit understandings, trust relations, common knowledge binding together actors of the cluster. On the other hand, hierarchical governance relies on explicit patterns of authority that allocate decision rights between transacting partners.

In the specific context of French clusters of innovation characterized by a top-down development policy, a joint presence of companies, higher education hubs and public or private research units and a strong implication of the State and the Region (Brette and Chappoz, 2007), we also need to take into account literature on territorial governance. Territorial governance can be defined as "*a complex institutional process combining cognitive and political dimensions, in which institutional proximity appears as a precondition of collective action and so organizational proximity at the micro-level of coordination*" (Carrincazeaux *et al.*, 2008: 624). Deeply rooted in the theoretical current of the French Proximity Dynamics group, this definition of territorial governance encompasses two dimensions. First, an *institutional dimension* that builds effective communication and collaboration through shared values and representations between actors. Second, an *organizational dimension* that emphasizes coordination as well as control and regulation of the co-located actors (Ben Letaifa and Rabeau, 2013).

To sum up, two important and complementary aspects of cluster governance can be highlighted: governance as a *coordination mode* and governance as a *regulation and control mode*. A third component might be added to draw a thorough picture of cluster governance: governance as *knowledge management device*. For Alberti (2001), cluster governance assumes indeed three distinct roles: 1) a control and regulative role, 2) a coordination role, and 3) a strategic role in developing cognitive resources and knowledge for cluster members. For the KBVC (Arikan, 2009; Bahlmann and Huysman, 2008; Maskell, 2001), learning and knowledge exchanges between cluster's organizations constitute the main strategic asset of the cluster and innovation its key process. The complexity and heterogeneity of actors in French clusters make knowledge management within the cluster much more complex than it is within a corporate context (Corno *et al.*, 1999). Creating and exploiting flows of knowledge for the benefit of the cluster lay beyond the responsibility of a single player like one of the leading firms in the cluster. The governance structure could thus play the role of "*social architect*" (Corno *et al.*, 1999), monitoring the flow of knowledge and enabling favorable conditions for knowledge creation processes.

However not all clusters do exhibit the same successful rate at enhancing firms' knowledge creation efforts. For Arikan (2009), the main solution to boost this rate is for the cluster governance to create new opportunities of knowledge exchanges and to enhance firms' internal knowledge creation capability through the development of an appropriate institutional environment within the cluster. This should help to (re)establish cooperation norms and develop or rebuild trust relationships.

1.2. Institutional work and practices

In order to precisely understand **how** cluster governance can create an appropriate institutional environment to foster knowledge exchanges and innovation, we use the emergent theoretical framework on "*institutional work*" developed by Lawrence and Suddaby (2006)

Institutional work describes "*the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions*" (Lawrence & Suddaby, 2006: 215). Extending work on institutional entrepreneurship, institutional change and innovation, Lawrence and Suddaby shift the analysis to the practical actions through which institutions are created, maintained and disrupted. Focus is made on how intentional actions and actors affect institutions and what kind of concrete practices are employed in relation to institutions, instead of focusing on institutions as templates for action (Lawrence *et al.*, 2009). Departing from the rational and "heroic" dimension of institutional entrepreneurship (DiMaggio, 1988), this approach highlights the strategies and concrete practices of many actors organized in "*a highly structured and hierarchical manner*" (Lawrence & Suddaby, 2006: 247) and their influence on the creation of a new institutional environment.

In their seminal article, Lawrence and Suddaby (2006) observe nine distinct sets of practices through which organizational actors engage in actions that result in the creation of new institutions. These nine sets of practices reflect three broader categories of activities:

- **Political work**: "vesting", "defining" and "advocacy" reflect political work in which actors reconstruct rules, property rights and boundaries that define access to material resources. The political lever is key to creating institutions insofar as its associated practices have the ability to establish rules, and construct rewards and sanctions that enforce those rules.
- **Normative** work: "constructing identities", "changing norms" and "constructing networks" emphasize actions in which actors' belief systems are reconfigured. The normative lever is based on the cooperation of the different stakeholders of the organizational

field and depends on the ability of collective actors to establish and maintain cooperative ties.

- **Cognitive** work: "mimicry", "theorizing" and "educating" involve actions designed to alter abstract categorizations in which the boundaries of meaning systems are altered. Well-established actors in the organizational field, with sufficient resources and legitimacy, might be more capable to develop cognitive practices. They will provide actions' templates and specific training for actors to facilitate the adoption of the new institutional practices.

Table 1 summarizes the 9 sets of practices associated with creating institutions.

Category	Forms of institutional work	Definition
Political work	Advocacy	The mobilization of political and regulatory support through direct and deliberate techniques of social suasion.
	Defining	The construction of rule systems that confer status or identity, define boundaries of membership or create status hierarchies within a field.
	Vesting	The creation of rule structures that confer property rights.
Normative work	Constructing identities	Defining the relationship between an actor and the field in which it operates.
	Changing normative associations	Re-making the connections between sets of practices and the moral and cultural foundations for those practices.
	Constructing normative networks	Constructing of interorganizational connections through which practices become normatively sanctioned and which forms the relevant peer group with respect to compliance, monitoring and evaluation.
Cognitive work	Mimicry	Associating new practices with existing sets of taken-for-granted practices, technologies and rules in order to ease adoption.
	Theorizing	The development and specification of abstract categories and the elaboration of chains of cause and effect.
	Educating	The educating of actors in skills and knowledge necessary to support the new institution.

Table 1. Creating institutions - Source: Lawrence & Suddaby, 2006: 221

Although the framework on institutional work seems particularly pertinent for the identification and analysis of concrete practices aimed at creating a new and appropriate institutional environment, it does not take into account the specific innovative and inter-organizational

context of clusters nor the role of collective actors organized within a cluster governance structure.

1.3. Institutional dynamics of cluster governance: proposition of an integrated framework

Our literature review on cluster governance emphasized three main aspects of cluster governance that complement each other: 1) a coordination function, 2) a regulative and controlling function, and 3) a knowledge management (KM) function. These three functions match the three main levers of institutional work, respectively 1) normative lever for the coordination, 2) political lever for the regulation, and 3) cognitive lever for KM.

Matching literature on innovation, cluster governance and institutional work and translating it to the specific inter-organizational context of clusters lead us to the following analysis grid of institutional practices of cluster governance. Unlike the original framework of Lawrence and Suddaby (2006), we suggest to study the three levers together and to match them with the three functions of cluster governance. Our framework identifies then 8 sets of institutional innovation practices associated to the 3 levers. For each set, we found in the literature several associated institutional practices that cluster governance might implement to create a specific institutional environment conducive to enhanced innovation.

All these institutional innovation practices are gathered in table 2. We detail them hereunder.

- **Political practices** foster firms' innovation within a cluster by facilitating the acquisition and allocation of financial or material resources and by establishing rules and constructing rewards and sanctions that enforce those rules and reduce free-rider risks. We identify three forms of institutional work.
  - *Advocacy practices* guarantee political support for the attraction of opportunities and material resources, both financial and human, to foster firms' innovation.
  - *Defining constitutive rules* facilitate the cohesion of very heterogeneous actors by clearly defining the regulative cooperation framework and legitimizing the cluster as "an acceptable form of organizing" (Human & Provan, 2000: 337). These practices participate to the creation of an organizational proximity between cluster members.
  - *Regulative mechanisms* are more constrictive, regulative and coercive than both other sets of political practices. These practices aim at limiting opportunism risks for cluster partners engaged in collaborative innovation projects.

- **Normative practices** are aimed at creating both organizational and institutional proximities that link cluster members together and promote innovation. By constructing shared identities and normative networks, normative practices facilitate the development of stable interactions and create relations of trust that promote greater access to and exchange of knowledge within cluster organizations and generate dynamics of innovation (Eisingerich *et al.*, 2010).
  - *Identity building* corresponds to two main practices: 1) the formulation of a strategy of its own that will be clearly communicated to all cluster members, and 2) the development of communities bearing this strategy (Nonaka and Konno, 1998).
  - *Constructing normative network* helps regulate and promote interactions for innovation, through the development of collaborative innovation projects or the integration of the scientific community.
- Cluster governance relies on the **cognitive lever** to manage knowledge creation at the cluster inter-organizational level. Cluster members have to share a common knowledge background – technical as well as generic – broad enough to develop collaborative innovation projects (Boschma, 2005).
  - *Mimicry practices* rely on the concept of institutional isomorphism (DiMaggio and Powell, 1983) that explains why, in the same institutional environment, organizations tend to adopt identical structure and behavior. In the cluster context, mimicry practices facilitate the adoption of collaborative practices for innovation and leads to the emergence of efficient innovative architectures.
  - *Knowledge management practices* are based on the three main phases of the external knowledge integration process: knowledge identification, acquisition and use (Bocquet and Mothe, 2010). At the cluster level, KM practices aim at developing architectural knowledge or cluster core competences that impact positively innovation performance (McCann and Folta, 2011).
  - *Enhancing absorptive capacities* trough education, specific training and international orientation. Cluster governance plays a double role in enhancing ACAP. First, it makes the knowledge available (through identification practices) and second, it ensures that cluster firms have the ability to appropriate them.

Our conceptual framework is summarized in table 2 here after.

Lever	Forms of institutional work	Associated institutional practices	Key references
POLITICAL	**Advocacy** or "suasion practices"	• Lobbying for resources • Presence of a key player or "institutional entrepreneur" • Involvement of formal institutions • Corporate communication and cluster advertising • Acknowledgement and endorsement practices	Suchman, 1995; Lawrence & Suddaby, 2006; Di Maggio, 2008; Fromhold & Fromhold-Eisebith, 2005; Elsbach & Sutton, 1992
	Defining constitutive rules	• Defining rules of selection and recruitment of new cluster members • Defining roles and status of cluster members • Defining standards and certifying actors	Lawrence & Suddaby, 2006; Porter, 1990, 2004; De Langen, 2002; Scott, 2001; Bachmann & Inkpen, 2011
	Regulative mechanisms	• Defining rules to share authority • Implementing formal and informal disciplinary mechanisms: control, penalty, rewards and conflict resolution	Alberti, 2001; De Propris & Wei, 2007; Provan & Kenis, 2007; Grandori & Soda, 1995; Boschma, 2005
NORMATIVE	**Identity building**	• Formulating a common and explicit strategy • Developing communities	Lawrence & Suddaby, 2006; Hardy & Philips, 1998; Nonaka, 1994; Bell & Zaheer, 2007
	Constructing normative network	• Assessing and balancing the degree of exchanges formalization: formal to informal • Developing collaborative projects • Integrating scientific community	Gulati, 1998; Grandori & Soda, 1995; Noteboom et al., 1997; Cooke, 2001; Arvanitis & Woerter, 2009; Tödtling et al. 2006;
COGNITIVE	**Mimicry**	• Mimicry or isomorphic practices	Di Maggio & Powell, 1983; Lawrence & suddaby, 2006; Arikan, 2009; Deroy, 2003
	Knowledge management practices	• Identifying external knowledge • Acquiring common knowledge • Exploiting common knowledge	Lawrence & suddaby, 2006; Tallman et al. 2004; Lazaric et al:, 2008; Arikan, 2009
	Enhancing absorptive capacities	• Apprenticeship or learning practices	Bathelt et al., 2004; Lawrence & suddaby, 2006; Vale & Caldeira, 2007

Table 2 – Conceptual framework: Institutional practices of cluster governance

We summarize the main features of the three levers of institutional innovation practices:

- **Political lever** provides an easier access to resources for innovation and a legal framework facilitating interaction and cooperation within the cluster.
- **Normative lever** is mobilized to create trust and a shared vision among members (common representations, values, beliefs and norms) and collective goals that facilitate interaction and collaborative projects
- **Cognitive lever** is oriented towards knowledge management and helps to identify, share and create new knowledge between actors in the cluster, thus forming a cluster-specific knowledge, a source of innovative performance and sustainability for business.

1.4. Empirical Data

This research studies the practices implemented by cluster governance to stimulate firms' innovation through the creation of a specific innovative institutional environment. We focus our study on two types of French regional clusters of innovation: a technopole and a competitiveness cluster. We conducted a comparative study using qualitative data of three innovation clusters in the Rhône-Alpes region.

The context

French technopoles were developed in the mid-eighties as public initiatives fostering technological innovation as well as tools of territorial dynamics. They are characterized by the coexistence, on a given space, of small and large high-tech firms, a large multisectoral range of economic activities including both manufacturing and services, academic or private research labs and a strong metropolitan character (Antonelli, 2000). 53 technopoles are awarded a specific label by RETIS association, French representation of the IASP – International Association of Science Parks.

Resulting from an ambitious policy of innovation launched in 2002, 71 competitiveness clusters were created on the French territory since 2005. They are defined as a combination of companies, higher education hubs and public or private research units, engaged in a partnership so as to create synergies in the frame of innovative projects, on a regional (sometimes interregional) scale (Brette and Chappoz, 2007). This partnership is structured around a market and a related technological and scientific sphere, and must seek out a critical mass to achieve international competitiveness.

Technopoles and competitiveness clusters share common characteristics. First, they both stem from top-down national and regional politics and address the same objective of fostering innovation. Second, a great number of these French clusters of innovation were created *ex nihilo* and are constituted of very heterogeneous members. Third, they both have an autonomous governance structure in charge of managing the network. The main difference between those two types of clusters lies in the innovation approach and the territorial perimeter. Whereas competitiveness clusters are collaborative innovative project-based and have a quite broad perception of geographical proximity, technopoles adopt a more linear-view of innovation and concentrate their actions on a defined geographical scope ("technological park").

For this study, we concentrate our analysis on a technopole, Savoie Technolac, and two competitiveness clusters, Axelera and Imaginove, located in the Rhône-Alpes region. First French industrial region and 5th European region for its technological and scientific potential, the Rhône-Alpes region is also particularly interesting for its high concentration of clusters, 2nd rank after Paris region.

The three clusters share similar characteristics in terms of size (between 150 and 180 firms) and nature of members (a majority of SMEs and of micro-businesses for Imaginove and Savoie Technolac). They differ in terms of industrial activities and governance structure. Table 3 hereafter summarizes the main characteristics in terms of emerging context, industrial structure and governance.

SAVOIE TECHNOLAC	Emerging context	Created *ex nihilo* in 1987, in Savoie, from a regional political will of developing the territory in order to relaunch the economics. Based on the popular model of the Silicon Valley and developed in a beautiful natural environment (lake, mountains and green).
	Structural characteristics End 2010	180 firms, 21 research centers, 9 academic establishments, 98% SME (66% < 10 employees). 4 industries: 1) ITC, 2) Conception & manufacturing of industrial equipment, 3) New materials and 4) Solar and renewable energies.
	Governance characteristics	Strategic governance: a joint union, SYPARTEC, with 21 delegates of the 3 territorial collectivities behind the project. Operational governance: 13 people organized in 3 departments: innovation, startups and international.
IMAGINOVE	Emerging context	Competitiveness cluster created in 2005. Project first led by the video game industry in Rhône-Alpes. 2006: cluster reorganization over the « Moving Picture» industries under financial pressure of the territorial collectivities (Grand Lyon and region).
	Structural	134 firms, 6 research centers, 15 education institutions. 99,5%

	characteristics End 2010	SME (65% < 10 employees). 3 main industries: 1) Multimedia, 2) Video game and 3) Cinema Majority of actors located in Lyon + Grenoble, Annecy et Valence.
	Governance characteristics	Strategic governance: a board of 10 people in 5 colleges (industrials 6/10 seats) + Scientific committee 10 people. Operational governance: 7 people + director
AXELERA	Emerging context	Competitiveness cluster created in 2005. Strong influence of two institutions (Grand Lyon and Rhône-Alpes region) on the initial project of joining 2 industries: chemical industry and environment. Project led by 5 organizations, leaders of their industry: 3 industrials (Arkema, GFD Suez & Rhodia) and research centers (IFP EN & CNRS)
	Structural characteristics End 2010	169 firms, 55 research centers and 9 academic institutions. 57% SME (37,5% < 10 employees); presence of very large firms. Strong progress of SME membership over the last years.
	Governance characteristics	Strategic governance: a managing board with the 5 founding members, a larger board of directors (22 members and 12 industrials), a scientific committee of 10 people. Operational governance: 12 people, 8 employees and 4 temporary detached personal of the funding organizations.

Table 3 - Main characteristics of the 3 innovation clusters

Data collection and analysis

In-depth interview is the primary mode of the data collection, which was conducted between November 2010 and February 2011 on the three clusters. The main actors of both strategic governance (board members, scientific committees, directors) and operational governance (members of the animation team) were interviewed. A total of 24 semi-structured face-to-face interviews were conducted on the three clusters (respectively 3 at Savoie Technolac, 13 at Axelera and 8 at Imaginove) for an average of 1:20 minutes.

The interview guide is organized around three main themes: 1) the emerging context and the structural characteristics of the cluster, 2) the characteristics of its governance, and 3) the measures implemented by the governance to foster innovation. The interviews were all recorded and fully transcribed. To triangulate the data, we used many public or confidential documentary sources (website, newspaper articles, internal policy documents) and non- participant observations.

Following Miles and Huberman (2003) methodology, data analysis was done in two main stages. We first performed a preliminary analysis of content from the three major themes in our interview guide and wrote a monograph for each of the three cases studied. This first step

enabled the condensation and structuration of all data. A dictionary of themes was then created according to our analytical framework of institutional practices of innovation in order to facilitate the coding of primary and secondary data. We then conducted a second analysis, intra- and inter-case study, in order to precisely identify the different sets of institutional practices – political, normative and cognitive – that were implemented by the cluster governance to foster innovation at the firms' and cluster level.

2. RESULTS

The objective of this paper is to gain an insight into specific institutional practices and to evaluate their effects on the ability of cluster governance to develop social and institutional dynamics conducive to innovation. Following the three levers of institutional innovation practices, our comparative analysis reveals the following points.

2.1. Political practices

In **Savoie Technolac,** cluster governance focused its actions on the institutional component of political practices, namely advocacy or suasion practices through a strong regional and national lobbying for financial resources and the presence and action of two emblematic institutional figures: the chairman of the technopole and his friend, the director of Grenoble subsidiary of the CEA, the French Alternative Energies and Atomic Energy Commission. Thanks to their political support, they managed to leverage important human and financial resources, including the location of the INES, the national institute for solar energy, and two incubators on site.

Regarding the two other sets of political institutional practices – defining constitutive rules and regulative mechanisms – the technopole governance faces more difficulty to implement them. Rules of selection are quite fuzzy, innovation being the main criteria. The absence of rules of procedures impedes a precise definition of the roles and status of the different cluster members (firms, research labs, universities). Finally, regulative mechanisms are not considered as legitimate since the main stakeholders of the cluster - its members – are not part of cluster governance. Indeed, the choice of public governance, centralized and disconnected from firms' concerns, hinders the acquisition of internal legitimacy (as "entity" according to the dimensions of the legitimacy of Human and Provan, 2000). It slows down the recognition of the technopole as a place conducive to the exchange of knowledge and innovative interactions. Thus, we can say that the deficit of political practices of innovation does not positively

influence the dynamics of cooperation. Members of the technopole appropriate the technology park more like a venue and place of accommodation than a territory fostering collaboration for innovation and knowledge sharing.

The mobilization of political leverage is much stronger in **Axelera**, and fully impacts the three corresponding sets of institutional practices. Both competitiveness clusters, Axelera and Imaginove, chose a mixed mode of governance with the dominant participation of industrial firms in the steering board. Axelera adopts a fairly hierarchical and formalized governance structure that is focused around a central board – the "Bureau" – consisting of the 5 founding members. They play a pivotal role, promoting as well as enforcing their strategic vision of the cluster collective dynamics. Unlike many empirical examples of cluster governance, Axelera shows a very interesting model of governance structure developed around a close-knit group of public and private actors that manage to acquire a real internal as well as external legitimacy.
Mobilizing the political lever leads to the establishment of operational collective rules and facilitates a more precise demarcation of the borders of the cluster as a meta–organization. Advocacy practices – in particular well-developed lobbying practices at a national as well as international level and the presence of powerful industrial key players – allowed, from the very creation of Axelera, the acquisition of substantial resources to support large-scale innovation projects. It gave an immediate high visibility to the cluster with ripple effect on its membership. The cluster has also been able to mobilize resources both human (many staff delegated by the founding organizations) and financial (funding a major benchmark study, launching of a consistent communication campaign). These resources quickly developed an image of a legitimate and essential partner for the development of innovation projects in the field of chemistry and environment.

Imaginove lies midway between the other two clusters. Advocacy practices are still poorly mobilized, particularly in lobbying. The absence of leading companies in the field of audiovisual or motion picture and the strong diversity of actors, independent by nature, make it difficult to implement suasion practices to capture resources. The charismatic personality of the first director of Imaginove and a smaller strategic governance structure, representative of all cluster members, compensate partially the lack of political connections and help to capture additional resources.
Imaginove governance gradually lays the groundwork for the defining of constitutive rules. However, they are still largely informal and only start to draw up the guidelines for a general

working framework for cluster members. Initial focus on the convergence of the three sectors of the moving image results in a progressively finer selection of its members, thus encouraging cooperative behavior. To find additional drivers for enhancing collaborations and innovation, Imaginove governance proposed recently a device that helps leading companies to develop business on a larger scale, hoping that it will create a ripple effect on innovative collaborative projects. However, greater formalization seems desirable in the early stages of creating the cooperative framework in order to quickly establish collective rules facilitating the establishment of an institutional innovation-oriented environment.

This first comparative analysis on the political lever shows that an increased formalization of the governance structure, highly depending on the active involvement of a group of actors and a coherent strategy across the cluster, improves the creation of common benchmarks and framework that should, in return, facilitate the adhesion of the cluster stakeholders and boost collaboration for innovation. However, the only political dimension may not be sufficient to create a sense of collective action. If political practices provide a framework that structures interaction of heterogeneous actors within the cluster and facilitates preferential access to resources for innovation, it is now necessary to examine the role of normative innovation practices.

2.2. Normative practices

The recent identity building of **Savoie Technolac** around the solar and renewable energy facilitates the establishment of a common internal frame of reference and faster identification by external stakeholders. However, this retrospective identity building, driven by INES implementation and the geographic proximity of TENERRDIS competitiveness cluster, only concerns a small but rising proportion of firms in the technology park. It may cause cleavage between two "communities of entrepreneurs": those working in the solar and renewable energies sector, recently installed in Savoie Technolac, and the others, more numerous but also less prone to develop collaborative innovations. To avoid cleavage and facilitate the endorsement of all cluster members to the new identity, Savoie technolac governance must work to build a normative network that failed him yet. For the time being, Savoie Technolac has not succeeded in transforming informal relationships developed between long-established members of the technopole into professional interactions around collaborative innovation projects.

Launched by cluster governance for the CEOs of the technopole firms, the recent device "*Business Lunch*" aims at changing the level of interactions, from individual to organizational

level. These meetings at lunchtime gather between 5 and 15 people every month and concern about 30% of cluster companies since its launch end 2009. Initially focused on the exchange of business best practices, this networking device is progressively leading to the emergence of a real network of business leaders. The "*Solar meetings*", an annual meeting around the solar business, participates also to the development of an internal community around solar and renewable energies.

Since its creation, **Axelera** governance focuses on the building of a clear identity, common to chemistry and environment. This shared identity facilitates adherence of both communities to the cluster and helps to federate them. There has been a significant effort on the part of cluster governance, to develop a coherent, sense-making strategy for both communities and to promote its dissemination. The strategy statement is clearly written in the first article of Axelera rules of procedure. As a matter of fact, Axelera not only develops a new identity for the cluster but also a new industry merging chemistry and environment. It is important that all stakeholders – cluster members as well as trade unions, professional associations, foreign partners, government – shall recognize and accept the new industry as legitimate.
Two key devices have been developed by the governance to form the basis of a firms' community: 1) "*Axelera Thursdays*" and 2) *innovation ecosystems*. Axelera Thursdays are successful networking events, approximately 10 per year, gathering nearly a hundred people and structured in two stages. First, in a plenary session the main actions of Axelera, an overview of some collaborative projects and 3 members (a large firm, a startup and a research lab) are presented. Second, business speed meetings (5') are organized and followed by a convivial networking cocktail. The organization of innovation ecosystems also contributes to the formation of communities as participants meet regularly, especially in the initial phases, preprojects, brainstorming. These ecosystems have been designed to operate independently in the long run such as "profit centers". They are however still very attached to the cluster governance with the regular follow-up by two referees of the governance structure (strategic and operational) and the annual reporting of collaborative projects. These ecosystems facilitate the integration of SMEs in collaborative innovation projects.

In order to build an identity shared by all cluster members, **Imaginove** first had to structure the relationships before entering a second phase of resources pooling. Particularly, cluster governance had to convince its members of the necessity of developing synergies on collaborative innovation projects, especially between different industries. The structuring phase

aimed at “creating a favorable atmosphere in the Rhône-Alpes region” to promote the development of SMEs from the moving image industry, while the current phase of pooling is focused on creating conditions conducive to the emergence of a real normative network in which actors share collaborative values, including the setting up of joint cross-media oriented projects.

Nevertheless, inter-sectoral differences long outweigh convergence. At the start of the competitiveness cluster, much financial resources have been dedicated to the deployment of training programs and economic development assistance (programs Imaginove Commercial and Imaginove International). It slowed down communication efforts and implementation of specific devices to support innovative collaborations. There is a lack of large or middle-sized companies, who could play the role of "locomotive", both to bear and represent this new identity. It could thus involve SMEs in a system of shared representations where innovative cooperation is the norm. Yet the efforts of cluster governance are now beginning to bear fruit with the emergence of a real dynamic around cross-media activities driven by devices such as the *Forum Blanc* (annual conference on cross-media), the *Living Lab* (a usage laboratory), specific call for projects and a professional fair on Serious Games.

The comparative analysis highlights a stronger mobilization of normative practices by Axelera governance, notably the identity building that rapidly united cluster members on the new field of environmental chemistry. Savoie Technolac struggles in establishing a normative network but recent governance initiatives suggest a positive development, especially in the sector of solar and renewable energies. Finally, time for Imaginove should be a powerful ally in building a network whose foundations seem solid.

2.3. Cognitive practices

Beyond mimicry practices and dissemination of best practices, the cognitive lever is mainly based on knowledge management practices and the development of firms’ absorptive capacity (ACAP). Our results show, in general, a certain weakness of mimetic behavior, especially in **Savoie Technolac.** The technopole governance rarely communicates about collaborative innovation projects that are developed on site. It should help though to illustrate these case studies as best practices for other firms on the technopole. Nonetheless some “success stories” of innovative collaboration between technopoles partners have recently been posted on the website. The individualistic behavior of firms (very small services firms in majority) limits the

scope of networking activities offered by cluster governance and, therefore, a more widespread use of such devices.

Concerning mimicry practices, **Axelera** and **Imaginove** are in the opposite situation with members of the strategic governance strongly convinced of the benefits of collaboration for innovation. They even set an example by participating themselves to collaborative innovation projects. This is still not enough to gain the support of the remaining members. On the one hand, the ubiquity of the founding members of Axelera in the first collaborative projects, beyond the ripple effect, may have a chilling effect on smaller companies. On the other hand, the lack of "locomotives" in Imaginove able to enlist startups in collaborative projects slows the mimetic behavior.

As far as knowledge management is concerned, the three cluster governances engaged in the identification of new sources of knowledge. Due to the large majority of SMEs, **Savoie Technolac** and **Imaginove** first worked on the development of *generic* information tools, such as information or help given on entrepreneurship, innovation funding and protection, negotiation of consortium agreements, exploration of academic partners, HR management, recruitment, export or project management issues… They also disseminate more *technical* information like regular presentation of newly developed technologies by scientific partners, conferences or roundtables, on the solar for Savoie Technolac or on cross-media for Imaginove. Axelera even created a specific event, "*Technical Tuesdays*", to regularly discuss technical topics such as water in industrial process, intensification of extrusion processes…

The three clusters also developed many partnerships with other clusters, national or foreign, with public or semi-private institutions in charge the development of innovation (CRITT, THESAME, Economic Agency, Chambers of commerce) and with trade unions or professional associations. The objective of these partnerships is to provide member firms a widest possible range of external sources of knowledge to limit risks of cognitive lock-in.

Apart from the first set of knowledge management practices – identifying external knowledge – **Savoie Technolac** has not really developed the two other sets, namely the acquisition and the exploitation of common knowledge. Only the INES and its dedicated incubator deal with the creation and the transfer of cluster-specific shared knowledge. At the opposite, **Axelera** governance is heavily involved in the identification and acquisition of collective knowledge across the cluster. It quickly established 5 innovation ecosystems in relation to the strategic themes identified for the cluster. These ecosystems support and accelerate the development of ideas, innovative projects and new knowledge. The exploitation of this new architectural

knowledge is materialized in two projects: the creation of a platform for innovation, Axel'One, and of a research institute, INDEED, that should allow the implementation of knowledge created at the collective level, its formalization and development through spinoffs.

Imaginove governance is also strongly convinced of the importance of knowledge management practices at the cluster level. After the first phase of external knowledge identification, Imaginove implemented different ways to help cluster firms to develop and acquire shared knowledge, primarily focusing on cross-media and serious games: the organization of a professional fair, *Serious Game Expo*, two calls for collaborative projects on Serious Games and new consuming habits, a investment fund for cross-media and an annual conference, *Forum Blanc*.

The last set of cognitive practices concerns the ACAP of cluster firms and the way to enhance them for better innovative performance. These practices focus mainly on apprenticeship and learning. In **Savoie Technolac**, practices enhancing ACAP are oriented in two directions. First, the solar industry, with a major learning program, lifelong and initial training, managed by INES institute. Second, the startups, with the Base Academy, a specific training program for business developers. However, no other training programs are scheduled for the majority of cluster firms not belonging to these two categories, even if the geographical proximity of the university, Université de Savoie, might facilitate an easier access to education.

Axelera only started to develop an educational program for its members in the second development phase, i.e. from 2008. This program is mainly for SMEs with training for innovation, European collective projects, export… The governance also worked together with member universities to develop new, adapted educational program (5 new initial training on chemistry-environment sector). An *ad hoc* working group was set up to discuss questions relative to education, forward planning and skills.

Since the beginning of **Imaginove**, the training and human resource component is very important and materializes with the recruitment in the governance structure of a project leader for Training & Employment, who is in charge of coordinating the network of schools of image in Rhône-Alpes. Four targeted training programs were developed: *Imaginove Commercial, Imaginove International, Imaginove Development* and "*Going for Growth*". Eventually, the cluster governance manages a skills management program that aims at defining common standards for cross-media players and stimulating inter-sectorial collaborative projects.

To sum up the results, the following table gives a comparative overview of the intensity level of use of the three levers and their associated institutional innovation practices.

Lever	Institutional innovation practices	Savoie Technolac	Axelera	Imaginove
Political	Suasion practices	++	+++	+
	Defining constitutive rules	-	++	+
	Regulative mechanisms	-	++	+
	Intensity degree of political level	+	+++	+
Normative	Identity Building	++	+++	+
	Constructing normative network	-	++	+
	Intensity degree of normative level	+	++	+
Cognitive	Mimicry	-	+	+
	Knowledge management practices	+	+++	++
	Enhancing absorptive capacities	+	+	+++
	Intensity degree of cognitive level	+	++	++
Global intensity degree of practices mobilization		+	+++	++

Table 3 – Comparative overview of intensity level of use of institutional innovation practices

2.4. Discussion

2.4.1. The impact of cluster governance on firms' innovation

This paper contributes new evidence toward understanding the impact of cluster governance on firms' innovation within French clusters. In particular it emphasizes a large set of institutional innovation practices that cluster governance can implement to create a specific institutional environment conducive to collaboration for innovation.

However two points must be noted. On the one hand, our analysis highlights the mobilization of the three levers of institutional work and of all 8 sets of institutional practices defined in our framework. On the other hand, institutional practices of governance in our three clusters show very different degrees of engagement that seem to go hand in hand with innovative performance at the cluster level as perceived through the qualitative analysis.

Indeed, Axelera succeeds in implementing several sets of political, normative and cognitive practices. Thus it facilitates the emergence of a normative network linking together the cluster members and fostering innovative collaborative practices as well as knowledge dynamics between them. To compensate for a weaker mobilization of political practices, the governance

of Imaginove focuses first on cognitive practices to develop individual absorptive capacities of its members (mainly SMEs and micro businesses) and a common cluster-specific knowledge base. By developing normative practices such as shared vision and common identity around cross-media skills and trades, Imaginove governance lays the foundations of a normative network conducive to greater interactions and innovative collaborations. Savoie Technolac is globally weaker in mobilizing the three levers than the two other clusters. Although very strong on lobbying practices that enable the allocation of important material resources for innovation in the solar industry, the technopole Savoie Technolac is still struggling to set in place other effective political practices such as constitutive rules (Scott, 1995) and regulatory framework. This lack of political practices hinders the growth of a normative network within the cluster, slowing down the development of collaborative projects of innovation. However, the recent construction of a common identity around solar and renewable energies supports the implementation of a new entrepreneurship community in the technopole.

2.4.2. Complementary effect of the three institutional levers

This multiple case study reveals some complementary effect of institutional work at the cluster governance level. The implementation of the three levers – political, normative and cognitive – facilitate the emergence of an institutional environment favorable to cooperation and innovation because of three contextual components:

- **Political practices** might benefit the building of the cluster's **legitimacy**.
- **Normative practices** might facilitate the emergence of **institutional trust**.
- **Cognitive practices** might constitute an **architectural knowledge** (cluster level).

Cluster legitimacy, institutional trust and architectural knowledge represent the three pillars that might act directly on cluster firms' innovation, militating for an integrative approach of cluster governance. We develop hereafter our understanding of these three pillars and their impact on innovation.

Building the cluster's legitimacy

Legitimacy is a major source of acquiring resources and innovative opportunities (Zimmerman and Zeitz, 2002) as well as the foundation of the cluster's success and longevity (Human and Provan, 2000). Political practices of innovation favor the legitimacy building. In French top-down clusters, the question of legitimacy arises even more resonance. The issue of legitimacy is involvement, mobilization and accountability of all stakeholders. In the context

of innovation where the acquisition of resources is a key element, the cluster and its governance must be recognized as legitimate both vis-à-vis external stakeholders to recover resources and sustain them, and internally, so that members "trust" part of their own resources by agreeing to work together on collaborative projects. Studying the French competitiveness cluster PEIFL (Fruits and Vegetables in the south of France), Messeghem and Paradas (2009) show how the construction of legitimacy has been decisive for the emergence of the cluster as a recognized inter-organizational structure and "a major player in the fruit and vegetable sector". This legitimacy has also had a strong impact on innovation by strengthening territorial anchoring and promoting the development of collaborative innovation projects.

Human and Provan (2000) highlight the importance of building the legitimacy of the network both internally, with member organizations, and externally, with various stakeholders such as funders, institutions. The outside legitimacy building is important for innovation because it facilitates the acquisition of resources while inside legitimacy welds cluster actors together, facilitating the emergence of communities and dynamic collaborations. Savoie Technolac adopted initially an “outside-in” strategy (Human and Provan, 2000), that aims at first promoting the cluster externally before developing the internal membership cohesion. This strategy makes it difficult for members to appropriate the technopole as a legitimate entity and organizational form conducive to inter-organizational interactions (Provan and Kenis, 2007). However, recent governance practices tend to reorient the strategy toward an “inside-out” one, fostering the legitimacy building of the technopole as an existing entity and a structure of interaction. At the opposite, Imaginove first concentrated on an “inside-out” legitimacy building in order to have all members agree upon the convergence project and slowly begun to revert the strategy. Meanwhile Axelera governance ran both strategies together, legitimizing the cluster internally in order to rapidly create cohesive and dynamic interactions on innovative projects, while seeking institutional recognition to establish the cluster as a legitimate and reliable partner for acquiring resources.

Human and Provan (2000) bring out the fundamental role of cluster governance in legitimacy building. They come to the conclusion that an “inside-out” strategy at the cluster creation seems more efficient for cluster legitimacy building and sustainability. Both strategies led by Imaginove and Axelera governances seem to confirm this statement.

Developing institutional trust

Trust is a central concept in explaining collaborations of innovation since it can significantly reduce transaction costs and lead to the creation of new ideas. In clusters where members do not know each other, the creation of trust might be time-consuming because it requires repeated face-to-face contacts. In contrast, where institutional trust exists, both parties refer to institutional safeguards in their decisions and actions and can thus develop trust without having any prior personal experience in dealing with one another (Bachmann and Inkpen, 2011; Loilier, 2010). Cluster governance, when developing institutional-based trust through normative practices, act as a personal third party guarantor for collaboration in innovation projects.

Institutional practices of normative nature, by building a cluster specific and collective identity and a network linking all cluster members in a system of shared representations, standards and common values, lay the foundations of an institutional-based trust that binds cluster stakeholders together. The regulatory and structuring framework generated by political practices reinforces the emergence of this institutional trust. In the context of French clusters, stemming from top-down initiatives and with few local anchoring, creating an institutional trust seems to be a valuable contextual variable to consider in the context of innovation. Indeed it might facilitate and speed the engagement of heterogeneous actors in interactive dynamics of knowledge and innovation.

In Axelera competitiveness cluster, where large leading firms coexist with smaller startups, the development of institutional trust is nearly a prerequisite for the early stages of collaborative innovation projects for which contracts are often not a sufficient basis in the creative process of inter-organizational trust (Bachmann and Inkpen, 2011). The same applies for Imaginove and it explains why the governance emphasized from the beginning the normative lever more than the political one. Despite its stronger territorial anchoring and anteriority, Savoie Technolac did not succeed yet to develop this institutional-based trust in the technopole. Collaborations for innovation are still stronger outside than inside the cluster and the governance has a great challenge ahead in enhancing normative practices in order to develop a stronger institutional trust to foster internal collaborations.

Building the architectural knowledge

The third contextual variable resulting from institutional practices of cognitive nature is related to the creation of new and cluster-specific knowledge from collaborative innovation projects that we can assimilate to *architectural knowledge* (Tallman *et al.*, 2004). When political

and normative institutional practices favor the conditions to create an adequate institutional environment conducive to better collaboration for innovation, cognitive practices rely on this environment to facilitate the creation of architectural knowledge as the combination of all actors' knowledge components. The architectural knowledge is a valuable source of innovation at the cluster level since it corresponds to non-transferable territorial resources and cluster core competences (Prahalad and Hamel, 1990).

Repeated interactions, particularly through collaborative innovation projects, foster the development of a stock of architectural knowledge that distinguishes the cluster from the rest of the industry and facilitates rapid dissemination of new knowledge through the cluster by increasing the absorptive capacity of firms (Tallman *et al.*, 2004). This architectural knowledge then positively influences the innovation of member companies and provides them with a competitive advantage, since it is not accessible to companies outside the sphere of the cluster. Axelera organization in innovation ecosystems seems particularly relevant to foster the creation of architectural knowledge. Imaginove governance goes in the same direction in supporting specific devices for collaborative innovation projects (Project Booster, calls for specific projects on UNSG) and interactive learning dynamics (Think Tanks and laboratory uses Living Lab). Finally, for the time being at least, the creation of an architectural knowledge in Savoie Technolac seems to be limited to organizations linked to the INES.

The limit of architectural knowledge is how create it at the cluster level in order that every cluster member can have access to it – as if it were a "public" architectural knowledge – and not to limit its access to ecosystems' members or to those participating to collaborative projects. For Giuliani and Bell (2005), as for Tallman *et al.* (2004), the risk is great to create a two-tier cluster with a strong asymmetry of knowledge between businesses with access to knowledge networks and others, SMEs in particular. The active participation of the governance in the innovation ecosystems – for example as in Axelera with the mandatory presence of a member of the operational governance and a member of the strategic governance in the steering committee – could alleviate this potential asymmetry. The knowledge gained in the ecosystem allows the governance to play an intermediary role of "knowledge broker " and to integrate isolated partners in collaborative innovation projects.

Conclusion

Three main contributions can be pointed out. Our first contribution is theoretical since we propose an in-depth adaptation and extension of this model to the analysis of cluster govern-

ance and its potential impact on firms' innovation, seizing cluster governance as a potential powerful determinant of innovation. By focusing on concrete practices implemented by the governance structure, we also contribute to the elaboration of practical management tools, at strategic as well as operational level, to sustain firms' innovation in clusters. In addition, our analysis grid based on institutional work at cluster level constitutes an original benchmark tool or evaluation indicator for public decision makers that can help to understand the observed differences of performance between clusters at a national level.

This study has also limitations that require further attention. Although multiple case studies are encouraged for greater external validity and a larger understanding of institutional practices of innovation, the conclusions are limited by the temporality of the case. A longitudinal analysis might deepen our understanding of potential innovative dynamics linked to the complementary effect of the three levers. Cross-sectional studies limit the analysis of institutional work as a process over time. Future research should thus seek to reedit the analysis a few years later in order to better evaluate the impact of the governance's institutional practices on innovation. The space might also be considered as a limitation. We focus our analysis on one region, the Rhône-Alpes region characterized by a high proportion of innovative clusters, an economic dynamism and a commitment to supporting innovation devices. It may be interesting to compare our results with clusters belonging to other regions, in France or in Europe, in order to eliminate contextual bias.

This work contributes to a better understanding of the role of cluster governance on innovation by defining an original framework based on institutional work. It suggests that an institutional-practice-based approach of governance might be a very convenient tool to analyze cluster governance. Future research should establish more precisely the complementary effect of the three contextual variables of our analysis by testing more in depth their impact on innovation.

BIBLIOGRAPHY

Alberti, F. (2001), The governance of industrial districts: a theoretical footing proposal, Liuc Papers: 82, 1-31

Antonelli, C. (2000), Collective Knowledge Communication and Innovation: The Evidence of Technological Districts, Regional Studies, 34: 6, 535-547

Arikan, A. T. (2009), Interfirm Knowledge Exchanges and the Knowledge Creation Capability of Clusters, Academy of Management Review, 34: 4, 658-676

Bachmann, R. and A. C. Inkpen (2011), Understanding Institutional-based Trust Building Processes in Inter-organizational Relationships, Organization Studies, 32: 2, 281-301

Bahlmann, M. D. and M. H. Huysman (2008), The emergence of a knowledge-based view of clusters and its implications for cluster governance, The Information Society, 24: 5, 304-318

Bell, S. J., P. Tracey and J. B. Heide (2009), The Organization of Regional Clusters Academy of Management Review, 34: 4, 623-642

Ben Letaifa, S. and Y. Rabeau (2013), Too close to collaborate? How geographical proximity could impede entrepreneurship and innovation, Journal of Business Research, 66: 10, 2071-2078

Bocquet, R. and C. Mothe (2010), Knowledge governance within clusters: the case of small firms, Knowledge Management Research & Practice, 8: 3, 229-239

Boschma, R. A. (2005), Proximity and Innovation: A Critical Assessment, Regional Studies, 39: 1, 61-74

Brette, O. and Y. Chappoz (2007), The French Competitiveness Clusters: Toward a New Public Policy for Innovation and Research?, Journal of Economic Issues, 41: 2, 391-398

Corno, F., P. Reinmoeller and I. Nonaka (1999), Knowledge Creation within Industrial Systems, Journal of Management & Governance, 3: 4, 379-394

De Propris, L. and P. Wei (2007), Governance and Competitiveness in the Birmingham Jewellery District, Urban Studies, 44: 12, 2465-2486

DiMaggio, P. J. (1988), Interest and agency in institutional theory, in Ballinger (dir) Institutional patterns and organizations: Culture and Environment, Cambridge, MA: Ballinger, 3-21

DiMaggio, P. J. and W. W. Powell (1983), The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields, American Sociological Review, 48: 2, 147-160

Eisingerich, A., S. J. Bell and P. Tracey (2010), How can clusters sustain performance? The role of network strength, network openness and environmental uncertainty, Research Policy, 39: 239-253

Giuliani, E. and M. Bell (2005), The micro-determinants of meso-level learning and innovation: evidence from a Chilean wine cluster, Research Policy, 34: 47-68

Human, S. E. and K. G. Provan (2000), Legitimacy Building in the Evolution of Small-Firm Multilateral Networks: A Comparative Study of Success and Demise, Administrative Science Quarterly, 45: 2, 327-365

Jessop, B. (1998), The rise of governance and the risks of failure: the case of economic development, International Social Science Journal, 50: 155, 29-45

Jones, C., W. S. Hesterly and S. P. Borgatti (1997), A General Theory of Network Governance: Exchange Conditions and Social Mechanisms, Academy of Management Review, 22: 4, 911-945

Lawrence, T. B. and R. Suddaby (2006), Institutions and Institutional Work, in Sage (dir) Handbook of organization studies, Londres: Sage, 215-254

Lawrence, T. B., R. Suddaby and B. Leca (2009), Institutional Work. Actors and Agency in Institutional Studies of Organizations, Cambridge: Cambridge University Press

Loilier, T. (2010), Innovation et territoire : Le rôle de la proximité géographique ne doit pas être surestimé, Revue française de gestion, 1: 200, 15-35

Maskell, P. (2001), Towards of Knowledge-based Theory of the Geographical Cluster, Industrial & Corporate Change, 10: 4, 921-943

McCann, B. T. and T. B. Folta (2011), Performance differentials within geographic clusters, Journal of Business Venturing 26: 1, 104-123

Messeghem, K. and A. Paradas (2009), L'émergence d'un pôle de compétitivité agroalimentaire : de l'encastrement à l'ambidextrie, Management & Avenir, 25: 5, 164-183

Miles, M. B. and M. A. Huberman (2003), Analyse des données qualitatives, Bruxelles: De Boeck

Nonaka, I. and N. Konno (1998), The Concept of "Ba": Building a Foundation for Knowledge Creation, California Management Review, 40: 3, 40-54

Porter, M. E. (1998), Clusters and the new economics of competition, Harvard Business Review, 76: 6, 77-90

Prahalad, C. K. and G. Hamel (1990), The core competence of the corporation, Harvard Business Review, 68: 3, 79-91

Provan, K. G. and P. Kenis (2007), Modes of Network Governance: Structure, Management and effectiveness, Journal of Public Administration Research & Theory, 18: 229-252

Scott, R. W. (1995), Institutions and Organizations, Thousand Oaks: Sage Publications

Tallman, S., M. Jenkins, N. Henry and S. Pinch (2004), Knowledge, Clusters and Competitive Advantage, Academy of Management Review, 29: 2, p. 258-271

Uyarra, E. (2010), What is evolutionary about "regional systems of innovation"? Implications for regional policy, Journal of Evolutionary Economics, 20: 1, 115-137

Visser, E.-J. and P. W. De Langen (2006), The importance and quality of governance in the Chilean wine industry, GeoJournal, 65: 177-197

Williamson, O. E. (1996), The Mechanisms of Governance, Cary, NC, USA: Oxford University Press

Zimmerman, M. A. and G. J. Zeitz (2002), Beyond survival: Achieving new venture growth by building legitimacy, Academy of Management Review, 27: 3, 414-431