

FRANCE'S EXPERIENCE WITH COMPETITIVENESS POLES AND CLUSTERS AS STRATEGIC TOOLS FOR DEVELOPING COMPETITIVE ADVANTAGES

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Abstract

In order to ensure the international competitiveness and sustainable development of the French economy, the country's authorities have implemented a new industrial policy, which also provided for the building and support of competitiveness poles, particularly since year 2005. The poles of competitiveness are conglomerations of representatives of industry, research institutions, as well as local or regional authorities who, by creating synergies and continuous collaboration, reach the pinnacles of economic efficiency. In addition to meeting all these conditions, the French poles are modern class clusters, fully adapted to the current trends of innovative development. They have managed to achieve multiple concrete results in terms of economic growth, succeeding in contributing to the modernization of the economy by increasing the competitiveness of products, services and labour. Members of the competitiveness poles aim to develop competitive advantages that provide for the sustainability of the innovation process.

Keywords: competitiveness pole, cluster, competitive advantage, industrial conglomerations, triple helix model, four clovers model, regional collaboration, innovation.

1. Introduction

In the XXI-st century innovations constitute a mega-tendency in the process of economic evolution of the countries of the world. Initiatives aiming at forming cluster partnerships are becoming more widespread to ensure the growth of the innovation potential of companies. International experience shows that clusterization contributes to the modernization of the economy by increasing the competitiveness of services and products, while the members of the clusters successfully develop competitive advantages.

The objectives of our research are to analyse the experience of France in terms of creating and valuing such industrial concentrations, to describe the stages in the development of competitiveness clusters and the ways they contribute to the performance of their member companies.

To accomplish the research, starting from literature review, we have used both theoretical-structural research methods such as analysis, synthesis, comparison, and theoretical-logical approaches including scientific induction and deduction.

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2. Base content

2.1 Summary review of the literature

The concept of economic pole is not new; it has only become commonplace again. Several terms have been attested in its complex metamorphosis. Its very roots are identified as "industrial district", in Alfred Marshall's "Principles of Economics", written in 1890 and published 30 years later, strictly defining the concentrations of specialized industries in private and interconnected localities through three fundamental factors, known as the "Marshallian Trinity", which inadvertently creates positive externalities [6, p.268]:

Figure 1. Spillovers provided by the Marshallian Trinity.

"Marshallian Trinity"	Positive externalities
1. The labour force	<ul style="list-style-type: none"> • Wage increases; • Specialization and increasing the level of qualification of employees.
2. Specialized suppliers	<ul style="list-style-type: none"> • Specialization on a particular segment of the added value chain; • High quality products at low prices.
3. Access to knowledge and information	<ul style="list-style-type: none"> • Technology transfer - information and knowledge "fly in the air" between existing firms in the concentration; • Key element for continuous innovation.

Source: elaborated by the authors based on *Principles of Economics, A.Marshall* [6]

Michael Porter, considered the father of the modern concept of cluster, opened its analysis perspective in his paper "The Competitive Advantage of Nations" published in 1990: "A cluster is a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities" [12]. According to the expert, in addition to the proximity factor, economic success is not explained by the classical theory of economic development based on the availability and abundance of production factors (labor, nature and capital). Rather it depends on the complex interaction of factors showed in what was subsequently called the "Porter diamond": demand conditions; input factor conditions; related and supporting industries - upstream and downstream ones; companies' strategy, structure, and competition [7, p.46].

Currently, the terms of "cluster" and "competitiveness pole" have been acknowledged particularly in France and Belgium. Although originally there was no difference between the Anglo-Saxon and French versions, however, there is a tendency to use them differently, which requires a conceptual delimitation of the two terms:

- The term "**cluster**" refers mainly to industrial geographical concentrations, accompanied by the positive externalities described by Marshallian theory; so the emphasis is on geographical proximity;

- While the term “*competitiveness pole*” is a geographical concentration of the industries’ actors, including SMEs, Research and Development and training organizations (research centres and universities), local and regional authorities and power plants. These stakeholders are brought together in a complex model of "triple helix" [3] or even "four clovers" model, namely + catalytic institution and working in partnership, in the framework of a common development strategy [1]. The “Porter diamond” paradigm serves as the basis for this concept, whose main idea and goal is to generate synergies and collaboration in innovative projects.

2.2 Findings and discussion

If we look at France's orientation in the 1960s, we see a specific industrial policy, which aimed to eliminate disparities between regions by avoiding the concentration of industrial centres in rich regions while supporting poor regions.

In 1988 an initiative emerged in the form of a program of creating SPL – Systèmes Productifs Locaux (local productive systems) - some agglomerations of SMEs, industrial districts created according to the Marshallian principle, united to overcome the problem of their small size via marketing activities, through promoting and increasing the level of co-operation. The districts were focusing on production, mainly concentrated in low-technology sectors, without cooperating with research and labour qualification centres. In 2007, there were already 144 SPLs and 82 were "emerging". We may consider these clustered concentrations as precursors of the modern poles of competitiveness [13, p.160].

A favourable turn was taken with the decision of CIIACT (Inter-ministerial Committee for Spatial Planning and Competitiveness) in December 2002 to adopt a government policy to improve research / industry linkages. The first works on this policy took place in 2004, when via the report "Growing Ecosystems" DATAR (Inter-ministerial Delegation for Territorial Planning and Regional Attractiveness) presented 2 key topics: “France needs to move from an economy of planning and imitation to one of innovation” and “this would be best done by regional actors who are most interested in inter-sectoral co-operation in a given territory” [11, p.185].

In 2004-2005 the new industrial policy was launched under the name "France industrial power", identifying the purpose of creating a favourable environment for R&D investment, increasing economic competitiveness, improving innovation capability, increasing employment rate as equivalent to the creation of competitiveness poles.

The rationale for adopting such an intensive industrial development policy is the high potential of industry – the growth engine for French economy, which absorbs 90% of R&D expenditure and contributes with 80% to total exports [9]. “The new “Competitiveness Clusters” program was designed to support clusters with industrial base and a critical mass of innovation to be competitive internationally. Although the program benefited regions with selected clusters, the primary goal was to address the performance of French firms and notably to develop or strengthen the triple helix relationship between firms, research centres and higher education institutions through joint projects” [11, p.184]. The 103 clusters existing in 2005 were reassessed and 67 had been selected, with a respective doubling of the budget. In the case of poles, the inclusion of SMEs is not a priority; even if in relatively small number, large enterprises exert considerable influence.

Regarding the composition of the poles, about 72% of members are enterprises and, of these, nearly 60% are SMEs. These represent nearly 80% of the total French SMEs. We note that the

involvement of large enterprises started to enhance more and more, since the year 2009 [13, p.160].

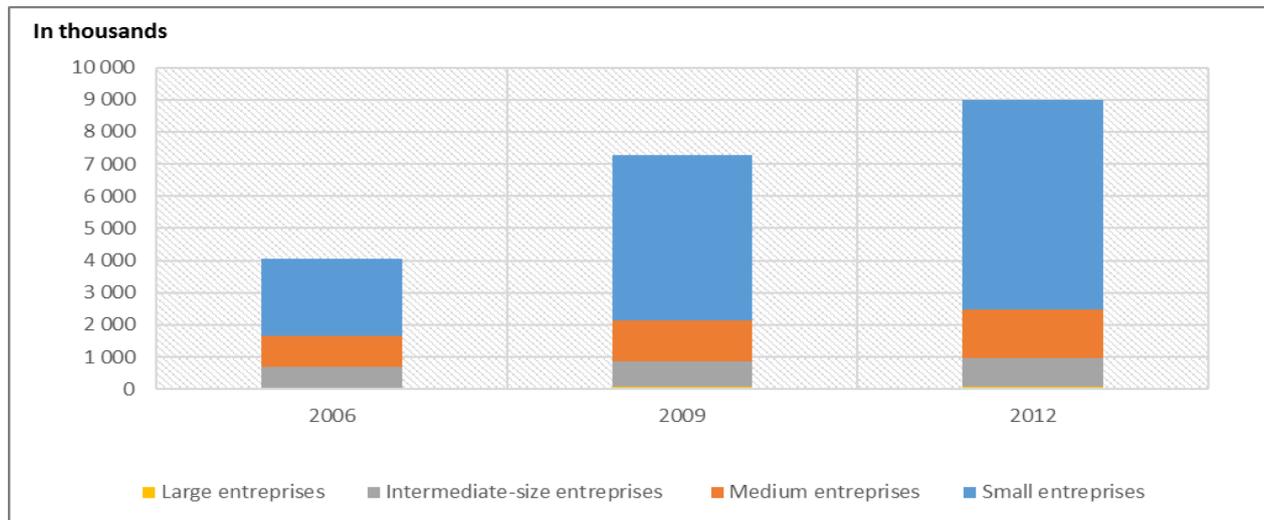


Figure 2. Number of member companies of the poles

Source: Statistics on the composition of French competitiveness clusters, DILA (Directorate of Legal and Administrative Information), National Commission for the Evaluation of Innovation Policies (CNEPI) <https://www.strategie.gouv.fr/evaluation/commission-nationale-devaluation-politiques-dinnovation> [10], last accessed on 13.06.2021

Currently, we find in France 3 types of clusters: business clusters that are called *grappes d'entreprises*, regional clusters meaning industrial territories, and competitiveness poles.

- **Business clusters** (label initiated by DATAR [2]), deriving from the old SPL, do not constitute a new label but a new category of cluster. Mainly made up of Very Small Entities (VSEs) and/or SMEs, they also include actors in training, employment and skills management, innovation and research. Unlike competitiveness poles, their main objective is the economic development of their sector, whilst providing services to their members. They also turn out to be more specialized, due to their activity devoted to a single field, and due to a smaller size than that of the poles.
- **Regional clusters** represent networks of companies made up mainly of SMEs and VSEs, strongly anchored locally, often in the same production niche and often in the same sector. The creation and maintenance of this effective relational system is favoured by proximity and cultural homogeneity, which generally corresponds to a regional entity [5].

Further on, we focus on France's experience in the field of competitiveness poles/clusters, identifying them according to various criteria, including their development phase.

Thus we distinguish 4 phases in their development:

1. **Phase 1** (years 2005-2008) - *first labelling of clusters and definition of their operating principles.*

- ✓ the definition of the 4 labelling criteria (strategy, visibility, partnership, synergies) -> the process of selecting poles following a triple analysis -> the attribution of the "competitiveness pole" label to 67 poles/clusters.
- ✓ the governance structure of the competitiveness pole is presented by its own legal entity, an association, supposed to assign major positions to industrial, scientific, and academic actors, having also a permanent team with a decisive role in facilitating the setting up of projects between various actors, both inside and outside the pole.

- ✓ funding of 1.5 billion euros over three years, entirely for R&D projects, provided by Fonds Uniques Interministériels (FUI) / Single Inter-Ministerial Funds, the main instrument of the financial state support.
 - ✓ after evaluating the 71 existing poles in year 2008, the conclusion was that:
 - 39 poles having achieved the set targets of the competitiveness poles (group 1);
 - 19 poles having partially achieved the set targets (group 2);
 - 13 poles needing reconfiguration (group 3) [9].
2. **Phase 2** (years 2009-2012) - *strengthening the policy of poles* [9].
- For those who have achieved their set targets, it was decided to confirm their label and launch three-years performance contracts (La Politique des pôles, Phase 2, competitivite.gouv.fr)
- ✓ 3 areas planned in addition to support R&D projects: • the need for strategic piloting of the clusters and the signing of “performance contracts”; • significant resort to private financing for the development of the innovation and growth ecosystem; • the development of structuring projects, in particular innovation platforms, financed by FUI [9].
 - ✓ 1.5 billion euros (provided by FUI) at the launch of a second phase, called "Pôles 2.0";
 - ✓ Other funds: • DIRECCTE (Regional Department of Enterprise, Competition, Consumer Affairs, Labour and Employment) - development at territorial, regional level; • ANR (National Research Agency) – support for research projects; • Public investment bank (BPI), with a contribution of around 2 billion euros for financing support to innovation; • PIA (Future Investments Program) - financial support to promote excellence in higher education and research [9].
 - ✓ CIADT (Comité Interministériel d'Aménagement et de Développement du Territoire) has decided to extend the second phase by one more year; the labelling of the 6 new "eco-techs" and the exclusion of others 6 poles; the number remains the same - 71.
 - ✓ By analysing Figure 3, we conclude that the financing of the projects of the second phase continued to depend mainly on public investments, instead of private investments. However, paving the way for the implementation of the structuring projects (34 platforms made) was an important achievement [9].

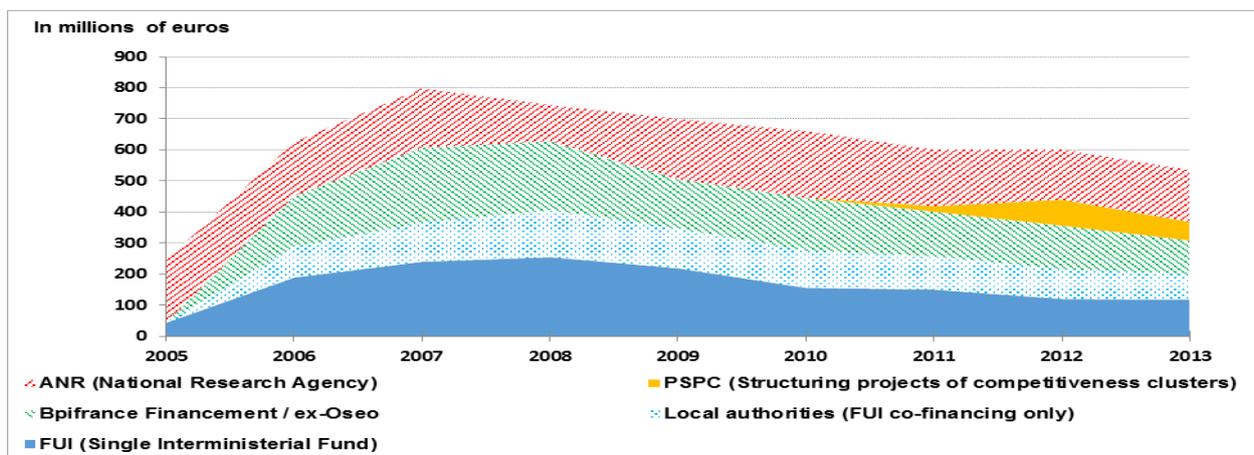


Figure 3. Main public funding for projects labelled as competitiveness poles.

Source: DILA (Directorate of Legal and Administrative Information), National Commission for the Evaluation of Innovation Policies (CNEPI) <https://www.strategie.gouv.fr/evaluation/commission-nationale-devaluation-politiques-dinnovation>, [10], last accessed on 13.06.2021

3. **Phase 3** (years 2013-2018) – stronger focus on economic opportunities and employment.

- ✓ It has been set as a priority the evolution of the poles towards real "factories of the future products" which transform the collaborative efforts of R&D work into innovative products, processes and services placed on the market;
- ✓ From now on the State and the Regions were supposed to engage in a renovated co-piloting, consisting of:
 - *The piloting committee (COFIL)* – the operational body for the policy of poles management by the representatives of the State and those of the Regions;
 - *The technical committee (COTECH)* – the technical version of the piloting committee;
- ✓ an important achievement that could be noticed was the mobilization of funds on the basis of the *National Pact for Growth*; also the attraction of new investments from Business France [9].

4. **Phase 4** (years 2019-2022) - a new dynamic for competitiveness poles [9].

- ✓ What was the rationale behind starting another phase? Due to the efficiency of the clusters, which for almost 14 years have positioned themselves as pillars of the national innovation policy, particularly to the benefit of SMEs, considerably increasing their growth and competitiveness.
- ✓ A European ambition is defined as main goal, within the framework of a “*European cluster policy*”, by entrusting the poles with the objective of bringing forth more European collaborative projects, in particular in the Horizon 2020 calls for projects, then Horizon Europe.

Europe offers multiple collaboration opportunities in order to achieve efficiency and internationalization of clusters, among which it is to mention the following.

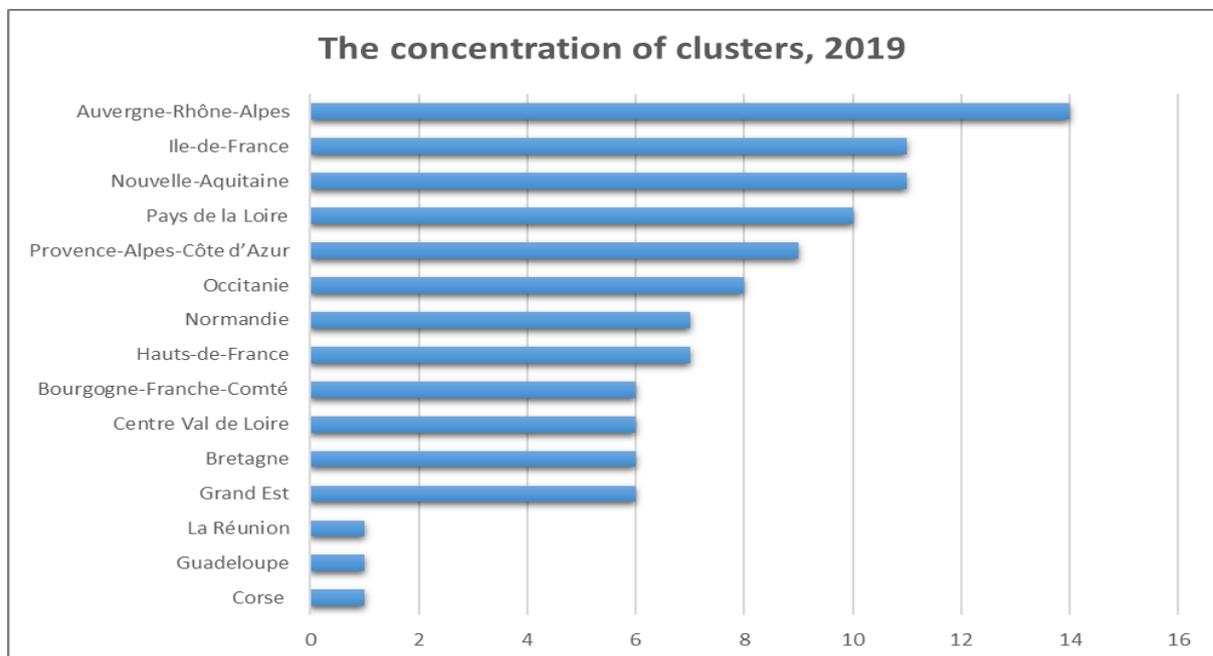


Figure 4. The concentration of poles on the French territory

Source: developed by the authors based on the location map “Mapster online”, the association France Cluster, www.franceclusters.fr. [5], last accessed on 13.06.2021

- the European Cluster Collaboration Platform (ECCP), which facilitates the cooperation of clusters within the EU and helps clusters to access international markets [4];

- European Cluster Observatory (ECO), an online platform that offers a complex toolkit, such as cluster mapping;
 - EOCIC (European Observatory of Clusters and Industrial Alterations) program, which creates smart guides for supporting entrepreneurship across clusters [4];
 - the Franco-German initiative EUREKA - transnational innovative projects. [9]
- ✓ two regions, *Centre Val de Loire* and *Hauts-de-France* were selected for the “pilot action on regions in industrial transition” program in early 2018, launched by the EOCIC and aimed at developing world-class clusters with competitive industrial value chains. In addition, 30 clusters participated in the Horizon 2020 program [9].
- ✓ the current number of competitiveness poles is 53, distributed almost homogeneously throughout the France’s territory, but with the highest concentration in *Ile-de-France and in the East*, as we can see from Figure 3. They have succeeded in becoming true centres of development and innovation, also marked by globalization.
- ✓ the poles have specialized in more than 18 fields, of which Agri-food, Biotechnologies, Materials, energy, and ICT (Informational and Communication Technologies) are the most requested [9]. These facts can be derived from Figure 5.

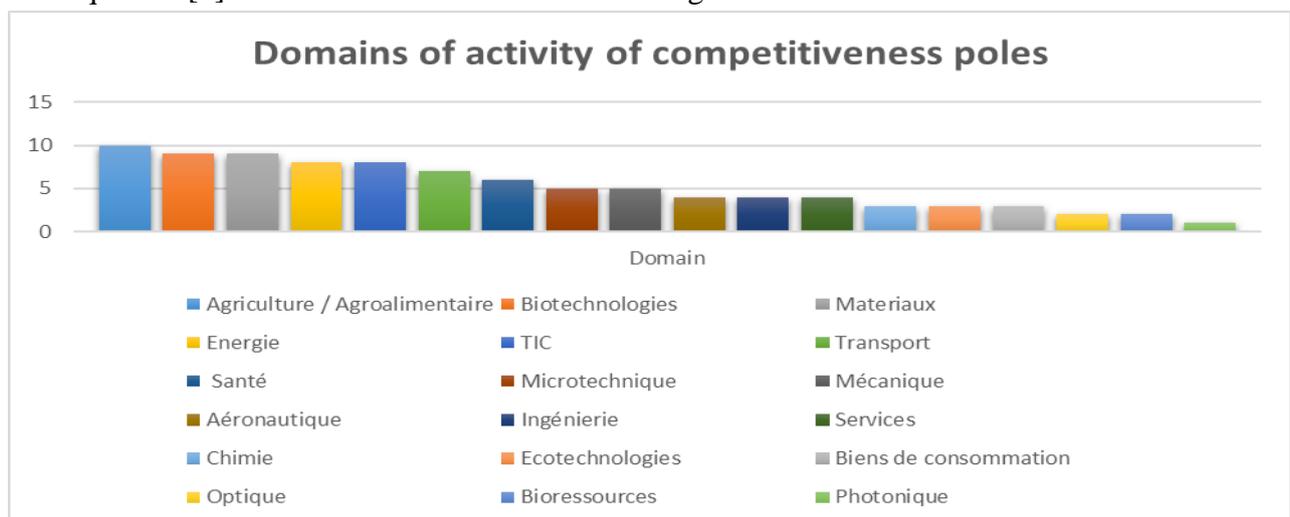


Figure 5. Specialization fields of the French competitiveness poles

Source: developed by the authors based on the statistics from the National Agency for Territorial Cohesion (ANCT) and General Directorate for Enterprises (DGE), “Documentation sur les pôles, Les domaines d’activité des pôles” www.competitivite.gouv.fr. [8], last accessed on 13.06.2021

3. Conclusion

Clusters contribute to the creation of a new vision on the state economic policy, aiming at strengthening the relations between the state bodies, the private sector, academia and all stakeholders interested in the proper functioning of the country’s economy. French competitiveness poles meet all the characteristics of innovative world-class clusters, fully promoting research and development, and high technologies.

French clusters have gone through a long period of evolution, evolving from a simple stage of Local Productive Systems, to one of competitiveness pole, representing the innovation and progress, implicitly contributing to building the competitive advantages of the French economy.

The technological improvement allows manufacturing more competitive products and providing more competitive services. Indeed, this reflects the whole pathway to success: identifying the economic problems and the relevant methods of approaching them, the problem solving, getting feedback and moving on to the next higher quality stage.

Improvement can be achieved through intensive experience, and France's experience in the field of economic poles / clusters is very relevant, serving as an example for all countries worldwide.

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