A contextual analysis of clusters in Morocco : What lessons for an integrated territorial policy and more competitive SMEs ?

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Abstract. The territory has become an area of research that is increasingly interesting to the scientific community due to its crucial role in the sustainable and efficient development of national businesses. As a result, a network of competitive ecosystems has been steadily developing since the launch of the "Competitive Morocco" plan in 1995, leading to various forms of inter-organizational agglomeration such as integrated industrial platforms, technopoles, and clusters. However, the Moroccan context lacks qualitative and quantitative studies to fully understand and grasp the variety, multiplicity, and specificities of the existing ecosystem forms. To address this gap, we conducted an exploratory study using an interpretativist approach, focusing on a specific form of grouping known as clusters. The aim was to understand the pace of change in this territorial mechanism, analyze its intervention strategies, and assess its geographical and sectoral distribution across the country. Our work resulted in an analytical map based on a non-probabilistic sample of 17 clusters, enabling us to capture the state of cluster evolution by geographical region, sector, intervention strategies, governance mode, and financing. The results from this exploratory study will be utilized in a second confirmatory study to measure the impact of territorial mechanisms on business competitiveness.

Keywords. *Clusters ; Ecosystems ; SMEs ; Competitiveness ; Competitive advantage; Synergies; Mapping.*

1. Introduction

Similar to the most industrialized countries such as Germany, Japan, China, and Italy which have adopted territorial ecosystem policies centered on business clusters (Gaudron & Mouline, 2016) to proactively support their productive fabric in a manner better suited to the evolving international context, Morocco has also committed to this territorial approach since the launch of the « Competitive Morocco 1995 » plan, aiming to make it a key lever of its national industrial strategy.

The objective of this strategy is to establish a system for anchoring factors that promote competitiveness by leveraging territorial levers. In this context, the Ministry of Industry and Commerce has launched a number of initiatives since the 1990s, which has led to the emergence of various and multiple forms of ecosystems. However, we remain scattered between the specificities, objectives, and outcomes of the different forms of ecosystems, which sometimes seem to be redundant, juxtaposed, and poorly designed, in light of the ambiguity surrounding the real impact on Moroccan companies (Martin & Sunley, 2003; Chesnel, Dufour & Faber, 2013). Indeed, the national context lacks advanced data and objective studies, allowing for an informed view on the evolution of competitive ecosystems in Morocco (Mokhtari & Ettaibi, 2021 ; El Hilali, Naoui-Outini & Oruezabala, 2020 ; Nait lachgar & Benmoussa, 2020 ; Nassiki & Ahrouch, 2020). Hence the importance of taking stock of this policy for the establishment of local ecosystems.

In the absence of quantitative or even qualitative studies and reports, providing an overview or

an advanced evaluation of this massive trend of establishing different types of clusters on a national scale (Boustane, 2023). And in alignment with previous works (Bocquet & Mothe, 2009 ; Berthinier-Poncet, 2012 ; Dana & Granata, 2013 ; De Benedittis, 2016 ; Chabault, 2016 ; Kaoud, 2018 ; Bokov, 2021) that opted for an exploratory approach, we highlighted the importance of developing a mapping of the different forms of ecosystems developed to date. The focus was placed on the form that had the privilege of exclusively bearing the name of the cluster, according to the official definition of the Ministry of Industry and Commerce. In this context, we adopt an interpretivist stance with an exploratory purpose to address the following issue : What is the current state of cluster development in Morocco ?

From this main question arise several interrelated sub-questions :

- Is there a single form of cluster in Morocco ?
- What are the theoretical and operational characteristics and boundaries of the clustering mechanism developed by the Ministry of Industry and Trade in the form of non-profit associations ?
- What is the geographic scope of this model across the national territory ?
- What are its intervention levers ? What is its governance and funding model ?

To do this, we opted for an exploratory study focusing on a non-probabilistic sample of clusters. The objective is to produce a map that aims to be an original contribution in the studied context. It will constitute a credible empirical reference, helping public and private actors to have advanced qualitative and quantitative data, for a more relevant understanding of the state of cluster evolution.

To address this crucial objective, we have structured our article as follows : In the first part, we began with a literature review on the origins of the concept and its positive effects on the company. In the second part, we established an overview of the different development plans, as well as the forms of ecosystems that have emerged from them. Next, we dedicated the third part to the methodological and epistemological framework. Finally, in the last empirical part, we opted for data triangulation ranging from a preliminary analysis of gray literature (newspaper articles, the Ministry's website, official cluster websites, international reports) to the collection of primary data through a questionnaire addressed to the directors and managers of the selected clusters. The collected data were processed using the ARCGIS software dedicated to the development of geographical data, resulting in a map that describes the specifics, characteristics, and key figures of Moroccan clusters, helping to provide more visibility on the evolution of clusters in the studied context.

2. Theoretical framework : literature review

a. Ecosystem typology

Since the birth of the concept of territorialized networks with the works of Marshall (1919, 1920), several forms of ecosystems have been created and implemented around the world. Many authors define territorialized networks as "coordinated sets of heterogeneous actors, geographically close, who cooperate and collectively participate in a production process." Similarly, Chesnel et al. (2013) note that some forms of networks are relatively old, while others are more contemporary.

This observation reveals that clusters are not tied to a fixed and reproducible model, but rather correspond to models adapted to each socio-economic, environmental, and cultural context. In this context, we have tried to identify the differences and specificities inherent to each form of ecosystem, while emphasizing « the cluster » given its importance and particularity for the context and purpose of this study.

The industrial district was introduced by the English economist Marshall (1919, 1920), and it was later developed by Italian authors from the late 1970s onwards (Bagnasco, 1988 ; Brusco, 1989 ; Becattini, 1989). The emergence of this notion emphasized the importance of local

conditions for the development of businesses through the establishment of a production system focused on specialized and spatial concentration for a synergy aimed at productivity.

Over time, French researchers Aydalot (1986), Perrin (1992), Courlet and Pecqueur (1992) have revisited the principle of industrial districts, giving it a new name for a new French mechanism highlighted by researchers from Grenoble and formalized by DATAR, which is the localized productive systems.

The DATAR (1998) defines SPLs as: « a particular productive organization located in a territory generally corresponding to a labor market area. This organization functions as a network of interdependencies made up of productive units with similar or complementary activities that divide the work (production or service companies, research centers, training organizations, technology transfer and monitoring centers, etc.) ».

Starting in the 2000s, a new form of ecosystem called a competitiveness cluster was initiated in France. According to Duranton, Martin, Mayer, and Mayneris (2008), a competitiveness cluster brings together companies, research laboratories, and training institutions in a given territory to develop synergies and cooperation. Other partners, including national and local public authorities, as well as services for the members of the cluster, are involved.

In this regard, Fromhold-Eisebith and Eisebith (2005) consider that there are no significant differences between other forms of agglomeration (industrial districts and clusters). The only difference lies in the mode of creation and governance of the poles, which remains attached to a centralized system governed by public authorities. Unlike clusters and districts, which can emerge from private initiatives without state intervention, "Bottom Up" (Defélix et al. 2008).

In the same vein, the cluster has the merit, despite its conceptual vagueness, of providing a theoretical framework that encompasses all territorialized industrial systems. This is confirmed by numerous empirical studies (Porter, 1998 ; De Bresson and Hu, 1999).

The concept of a cluster is still not entirely clear. This term, which is constantly attracting public policy interest, lies somewhere between the economic, political and territorial spheres (Suire & Vincente, 2008). This premise leads us to distinguish between, on the one hand, the cluster as an economic phenomenon, and on the other, the policies dedicated to it (Ketels & Sergiy, 2013). According to Martin and Sunley (2003), the definitions given to this concept remain vague, making it difficult to assess it and the policies that are specific to it.

According to Ditter (2005), a cluster is a « form of organization whose competitiveness is based on the existence of close relationships between actors linked by common or complementary objectives, rooted in a given territory. » The notion of a cluster quickly became the standard concept in the theoretical field of economic localization thanks to Porter's work, which defines a cluster as « a geographically proximate group of interconnected companies and associated institutions in a particular field, between which there are commonalities and complementarities. » Its geographical extent varies from a single city or region to an entire country, or even to a network of neighboring countries. (Porter, 2004).

It is also a form of network that is relatively geo-localized, where the proximity of businesses and institutions ensures a number of common elements and improves the frequency and impact of interactions.

In light of the ambiguity and multitude of definitions that characterize the notion of a cluster, Hamdouch (2008) ; Lartigues and al. (2008) indicate that clusters can be defined along three axes : economic, relational, and territorial.

- o according to the economic axis, clusters consist of a grouping companies and institutions in the same field of activity, forming part of the same value chain, and with complementary activities ;
- o according to the relational axis, they materialize the links between the units that make them up and the coordination of their actions ;

- o according to the territorial axis, clusters are defined by their geographical extent and their concentration in terms of the number and density of players in the territory concerned.

b. Analysis of the clusters positive effects

In the development of his clustering theorem, Porter's contribution became the theoretical reference for analyzing the concept of "Porter's diamond" clusters. Porter's diamond defines the interdependent factors on which a company networking policy must be based in order to deploy a competitive ecosystem :

- production factors (tangible and intangible) present in the territory ;
- demand conditions in the area (more or less demanding, more or less pioneering);
- investment and competition conditions, and finally ;
- the fabric of co-located companies.

The Porter's diamond is considered one of the best references for understanding the mechanisms of geographic concentration of economic activities and their effects on the development of corporate competitiveness. Work on clusters seeks to provide a micro-economic foundation for prosperity and local economic growth (Porter, 1998). The aim is to foster synergy around innovation, more specifically collaboration between economic, technical-scientific and institutional players to implement innovative projects.

According to Torre & Lefranc (2006), the cluster is essentially based on four theoretical foundations :

- The notion of knowledge economy, concerning the diffusion of knowledge at local level between agents ;
- The concept of network externalities, where the network is seen as a form of cluster organization ;
- The concept of vertical integration, which notably concerns the pooling of resources and skills within a cluster ;
- An open system, the cluster fosters inter-cluster, inter-regional and international relations.

In addition, Chalaye and Massard (2009), considere that clusters transform the reality of companies through a system that favors competitiveness vectors such as : structural determinants (governance, company size, level of spatial concentration, etc.); R&D determinants; sector specialization or diversity; level of cluster connectivity (internal and external knowledge exchange); territorial environment. At this juncture, it's evident that clustering isn't exclusively aimed at fostering innovation. Instead, its primary purpose is to establish partnerships and collaborative relationships among stakeholders, irrespective of whether the focus is on innovation or other aspects that cater to the stakeholders' requirements. In this context, Jacobs and de Man (1996) point out that clusters can lead to different forms of inter-firm linkage: horizontal, when companies compete in the same industry; vertical, when companies are part of the same value chain; lateral, when companies are not part of the same industry, but share resources and skills; technological, when several companies from different industries share a technology; focal, when companies cluster around a hub company or a research or training center; Networks quality, when there is a process of inter-firm cooperation. In this respect, Lahrach, Helmi and El Makhad (2020) defend the importance of territorial intelligence and the value it can bring to companies, and especially to local SMEs.

The structuring and agglomeration of players in the form of clusters or other structures can help companies boost their competitiveness, especially SMEs, which lack the resources to deploy a business intelligence policy in order to access new information and knowledge. Furthermore, Nassiki and Ahrouch (2020) demonstrate that SMEs involved in clusters perform well in terms of innovation. This confirms Porter's (1998) key hypothesis that clusters positively affect

member companies' innovation. What's more, companies that cooperate with their customers can develop new skills required for greater market responsiveness, thus facilitating process innovations (Belderbos et al, 2015).

In fact, Chaudey and Dessertine (2018) carried out a study analyzing the impact of clusters in creating R&D jobs. Their findings show that establishments, which take part in cluster R&D projects, have created more jobs, 42% of which are R&D managers. In the same way, Mokhtari and Ettaibi (2021) also demonstrated that the ecosystem promotes access to knowledge, which helps companies to improve and strengthen their level of innovation. Moreover, Hobad, Hobad & Kabouri (2022), in their study of fishing companies operating in the port of Tan Tan, found that 72% of the sample were in favor of bringing companies and training centers closer together, in order to improve company skills and develop a pool of skilled jobs.

Similarly, in an exploratory study of French music clusters, Lefevre (2016) found that 62% of cluster members in 2015 said they had found a solution to their isolation through the cluster. Similarly, Dana & Granata (2013) confirm that the cluster fosters a dynamic of resource pooling and cooperation between members.

In the same vein, Dujardin, Virginie, and Mayneris (2015) conducted a statistical evaluation of the overall impact of the cluster policy on the economic performance of participating companies in Wallonia. The findings reveal that joining the cluster initiative does not have a significant impact on a company's total exports, but it does appear to be associated with a shift towards diversifying the export portfolio.

Gautier (2015) has shown through his empirical study that participation in a cluster gives access to a significant technological infrastructure. Easier access to IT solution providers, and an exchange of information with peer peers, especially for SMEs that lack financial capacity and fruitful relationships. In addition, Kaoud (2018) states that clusters offer different programs to SMEs to ensure they have a support package tailored to each phase of their development (business capacity-building programs, international conference participation programs, foreign direct investment program, technology parks...).

In line with the above, Lachgar and Benmoussa (2020) demonstrate through their results from a study carried out in the Moroccan context, the crucial role of trust and leadership in the business performance and innovation of companies belonging to clusters. In their view, the good governance fostered between members due to cluster efforts has a direct impact on improving the business performance of Moroccan cluster member companies through the introduction of best practices. Likewise, Achermann (2019) analyzed the policy of territorial innovation clusters in 25 territories in Russia. He found that these clusters initially fostered a process of local territorial governance marked by institutional proximity, this enables the adhesion of local territorial actors around dynamic innovation projects.

Also, Bocquet and Mothe (2015) conducted a study on a French competitiveness cluster dedicated to SMEs. They found that cluster membership encourages SMEs to improve corporate routines, acquire and integrate knowledge, and overcome technological barriers. As result, Cluster membership implies an SME transformation sheet via a label of excellence, encouraging the acquisition and integration of knowledge, while lifting technological barriers for the least advanced SMEs.

In the light of this literature review, we can conclude that the research community is interested in the positive effects of clusters on the economic performance. Nevertheless, these studies could not have produced relevant results without considering the specific features that characterize the different clustering models, notably the type of cluster, its internal diversity, its structure, the intensity of innovation, the existence of barriers to entry, modes of governance and coordination (Bocquet & Mothe, 2009). To this end, we have worked to create an original and essential empirical contribution to gain a more detailed understanding of the characteristics and specificities of clusters in Morocco.

3. Overview of territorial ecosystem development policies in Morocco

In this section, we conducted an overview of public policies that have led to the establishment of different forms of ecosystems, each contributing through its specificities to endow the economic fabric with essential local factors for its competitiveness.

- o In 1995, **the Competitive Morocco Plan** was the first plan aimed at supporting the development of competitiveness in production sectors, for higher added value and stronger economic growth. This policy identified four pilot clusters that constituted the axes of this new sectoral development orientation. These are the following sectors: tourism, textiles, seafood, electronics. Several measures have been taken to support this new policy. Let's note the creation, under the impetus of the World Bank and the association "Le Maroc Compétitif," of a semi-public/semi-private structure that was to oversee the coordination of cluster projects and conduct sectoral studies to evaluate and ensure the monitoring of clusters.

- o Ten years after **the Plan Maroc Compétitif** and with the ambition to revitalize the Moroccan economy and strengthen the industrial fabric by promoting new promising sectors, the Ministry of Industry and Commerce had initiated a new proactive strategy, **the Plan Emergence 2005-2009**. This new strategy identified seven key sectors, helping Morocco to position itself well in the global market. Several measures have been adopted to support this strategy. Let's particularly mention the creation of dedicated industrial zones and platforms, with an attractive incentive framework as well as a customized training program, for targeted support to the new industrial sectors invested in by the Emergence plan.

- o To capitalize on the results of the Emergence Plan, the State and the private sector have committed to **the National Pact for Industrial Emergence** following a program contract for the period 2009-2015. This program contract was established to support the competitiveness of national companies and to integrate SMEs into the said strategy. The development of P2Is represented one of the main tools. The objective was to improve local industrial zones and create more integrated ones, to provide national and foreign investors with reception sites equipped with infrastructure tailored to their needs. In this context, the Ministry established the Moroccan Agency for Industrial Development (AMDI) to monitor and follow up on projects related to P2I. In parallel, Morocco launched **the Maroc Innovation** initiative to encourage the creation of clusters across the entire national territory and for various economic sectors. The main objective of this initiative is to create innovation ecosystems that enhance the competitiveness of local businesses, particularly SMEs.

- o **The Industrial Acceleration Plan (2014-2020)** follows in the footsteps of the emergence plan launched in 2005 and the National Pact for Industrial Emergence signed in 2009. It aimed at the emergence of a high-performing and competitive industry, expected to generate jobs and increase the industrial share in the national GDP. To implement these objectives, the new industrial strategy has defined key measures. The objective is to create industrial ecosystems aimed at reducing sectoral fragmentation, by establishing partnerships and alliances between large groups and SMEs, with a view to driving a new integrated industrial dynamic, strengthening competitiveness, improving performance, and generating jobs.

- o Compared to previous plans, **the industrial acceleration plan (2021-2023)** stands out for the priority it gave to national production through import substitution. Indeed, previous plans have allowed Morocco to develop undeniable expertise in various sectors. However, the reconfiguration of the international chain after the 2020 crisis called for Morocco to strengthen its local industry, to equip itself with complementary, integrated, and high value-added sectoral chains. This plan aimed to reduce the

dependence of the Moroccan economy and industry on imports of finished products, strengthen its sectoral integration, and diversify its exports.

According to this assessment, we can highlight the efforts made by the state in improving local factors through the establishment of a panorama of development plans that continue to evolve. To this end, we have developed a summary sheet that highlights the different forms of ecosystems with their key characteristics, based on secondary data provided on the official websites of the Ministry of Industry and Commerce and the territorial development agency MEDZ.

Table 1 : Overview of the different competitive ecosystems in Morocco

Ecosystem type	Origin	Definition	Benefits	Total number
Industrial zone and Industrial Acceleration Zone	Competitive Morocco Plan (1995)	ZAEs are industrial sites equipped to accommodate small and medium-sized units, with the aim of creating local and regional wealth and employment. ZAEs aim to develop production sectors specific to each region through the local valorization of natural resources.	▪ Attractively priced land ▪ Geographic concentration ▪ Proximity to suppliers, customers ▪ Employment area ▪ Tax advantages	▪ 149 industrial zones ▪ 10 industrial acceleration zones
Technopark	Competitive Morocco Plan (1995)	The Technopark is an incubation facility designed to facilitate the creation and growth of innovative companies operating in the fields of information and communication technologies (ICT), green technologies (greentech) and the cultural industry. It offers an environment conducive to the growth of start-ups, thanks to a wide range of services.	▪ Accommodation ▪ Employment ▪ Mentoring ▪ Training ▪ Access to financing ▪ Market access, networking	▪ 3 techno-parks Casablanca, Rabat, Tangier and 3 sites planned in Fez, Tiznit and Oujda
Nearshore Sector	Emergence plan (2005)	The nearshore park is a Moroccan offshoring flagship built to international standards. The concept is designed to enable companies to focus on their core competencies and boost their competitiveness and economic value.	▪ Infrastructure ▪ Employment area ▪ Geographic concentration ▪ Tax advantages ▪ Training grants ▪ Lower telecommunication costs	▪ 4 hubs (Casablanca, Rabat, Fez, Oujda)
industrial technical centers	Emergence plan (2005)	These are the industrial and technological platforms set up by Morocco's Ministry of Industry to provide the country's economic fabric with the technological and industrial infrastructure it needs to enhance the competitiveness of its industrial sectors.	▪ Testing and experimentation laboratories ▪ Shared industrial and technological platforms ▪ Project financing funds ▪ Technical and technological assistance ▪ Support in obtaining certification to international standards ▪ Training and expertise	▪ 8 Technical Centers

Clusters	National Industrial Emergence Pact (2009-1015)	A cluster is a group formed in accordance with law 75-00, consisting of companies, research or training centers, and institutions operating in industrial or technological sectors. The group shares a common development strategy and aims to encourage the emergence of innovative collaborative projects. By coming together, these companies are able to enjoy competitive advantages, particularly from the externalities they generate.	▪ Proximity of players ▪ Shared vision ▪ Innovation and R&D ▪ Technological, commercial and regulatory watch ▪ International promotion ▪ Access to markets and principals ▪ Training, incubation and mentoring ▪ Support for green transition and standards compliance ▪ Subsidies ▪ Financing	▪ 17 clusters

Elaborated by the authors

It's important to note that in this table, we've excluded industry associations and federations, as well as economic interest groups, for two reasons, one theoretical and the other contextual. Indeed, we refer to the porter's definition about the theoretical boundaries of the cluster, which requires two main conditions: the federation and mobilization of diverse public and private players, that they be linked by complementarities, and that they result in synergies and positive externalities. These conditions are not met in the model of sector federations & associations and MSEs, since the substance of sector federations & associations is more to protect the interests of a sector or group of players and better represent it to the institutional sphere. By the same token, an EIG is considered to be a cooperative contract between private players for a specific duration and purpose and does not give rise to a cooperative grouping between the public and private sectors. As for the argument relating to the context, we can say that we do not have access to credible databases to provide reliable, real-time figures on the number of sector federations and associations as well as MSEs developed in Morocco. This justifies our choice to focus more on the forms of ecosystems and clustering supported by public action.

## 4. Methodology

a. Epistemological position

In line with the nature of the subject matter and the context studied, we opted for an interpretivist approach justified by the ambition to understand a complex phenomenon for which information is not readily available, in a field of study that has not been explored in depth (Thietart et al. 2014). According to this epistemological school, the process of knowledge production requires a thorough understanding of the meaning that actors give to reality (Wacheux, 1996). It is a process of interaction between the interpreting subject and the observed phenomenon, giving rise to legitimate interpretations based on a scientific approach (Perret and Girod-Séville, 2002 ; Giordano, 2003).

Regarding the foregoing, this article takes an interpretive approach, given that it seeks to understand an emerging and multidimensional phenomenon, which requires defining its boundaries through a process of in-depth understanding. With this in mind, we have opted for an exploratory approach aimed at understanding the clustering model in Morocco and gathering the necessary qualitative and quantitative information to develop an analytical map that will enable us to analyze the evolution of this mechanism since its implementation as part of a territorial policy. Our approach is in line with the work carried out in Morocco by other researchers (Boustane, 2023; Nassiki & Ahrouch, 2020; El Alami 2019; El Waatmani & Makhtari, 2018; Benhar, 2016; Amine, 2016).

b. Sampling method

With regard to our sample, we found that the field consists of several forms of competitive ecosystems. However, we decided to focus on one form that has experienced massive growth in recent years and has been officially designated by the Ministry of Industry and Trade as a cluster, intended to further promote positive externalities and interactions, based on several dimensions of proximity, namely: geographical, organizational, cognitive, institutional, and relational proximity. To do this, we built our sample using non-probabilistic sampling techniques, as our objective was to select only those units that best represent the Ministry of Industry and Trade's definition of this type of ecosystem.[1]

Figure 1 : The stages of non-probability sampling
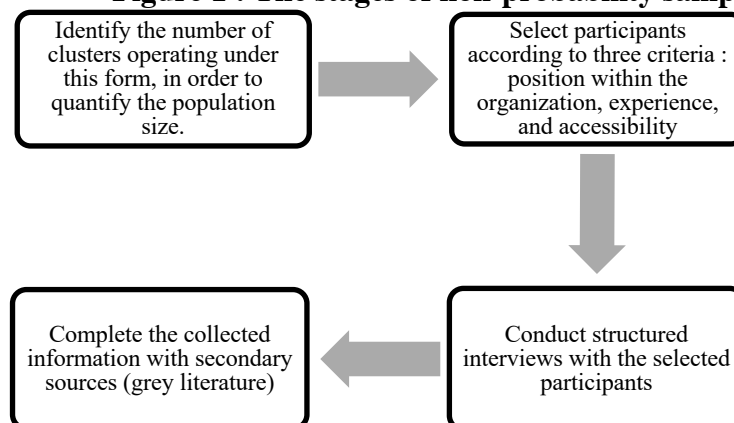
Source : Elaborated by the authors

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[1] « A cluster is defined as an association established in accordance with Law 75-00, whose members are companies, research or training establishments and centers, and institutions operating in industrial or technological sectors, with a common development strategy, and whose statutory purpose is to stimulate the emergence of innovative collaborative projects. This grouping enables companies to benefit from competitive advantages, particularly thanks to the externalities it generates ».

After conducting thorough research on existing clusters, we have identified a total of 17 operational clusters, organized and developed since 2010. They correspond, on the one hand, to Porter's definition (1990, 2000, 2003) and, on the other hand, to the official definition of the Ministry of Industry and Commerce. It should be noted that the choice of this sample is due to the fact that it represents a form of ecosystem that is not limited to a mere geographical concentration. On the contrary, it emphasizes the interactions that arise from ultra-dimensional proximity (institutional, geographical, organizational, cognitive, and relational). Our sample consists of 17 clusters that have been developed within the framework of a new ecosystem mechanism launched in Morocco since 2010.

c. Data collection and processing methods

In accordance with our exploratory objective, we adopted a data triangulation strategy to optimize, on the one hand, the quality of the data collected (quantitative and qualitative) and, on the other hand, the sources of the data mobilized (primary and secondary). To this end, we proceeded with the collection of primary data through a questionnaire distributed to the presidents, vice-presidents, directors, managers, and project leaders of the selected clusters. The questionnaire was developed following a literature review. Then, it was adapted to the national context, which lacks in-depth quantitative data regarding the evolution of clusters and their key figures. We started data collection in June 2023 and continued until December 2023. To administer the questionnaire and optimize the results, we chose the method of assisting respondents face-to-face. However, due to constraints related to the availability of respondents and the geographical dispersion of the clusters, we deemed it necessary to assist respondents via phone or videoconference.

A triangulation of primary and secondary data was carried out to highlight the main characteristics of the studied clusters and their key figures. The triangulation of data sources was useful for us to optimize access to the data. For this purpose, we conducted a documentary analysis on the various Moroccan clusters (Ministry of Industry website, Cluster websites, press articles, national and international reports). This triangulation of information sources facilitated our access to data and contributed to the richness of the results.

For data processing, we conducted an inter-cluster comparative analysis to develop a map, focusing on the 17 clusters selected based on their correspondences and coherences with theoretical and contextual constructions that advocate working on state-subsidized clusters (Mueller & Fuchs, 2023). Next, we processed the data using the ARCGIS software, which allowed us to exploit the collected data to produce a geographical map, enabling us to position the studied clusters according to their geographical distribution. An empirical work that aims to be original in the absence of a contextual mapping dedicated to this form of clusters, which are generally subsidized and labeled by the Ministry of Industry and Commerce.

5. Analysis results and discussion

a. Mapping of Moroccan clusters

At this stage, we conducted a comparative analysis of the structural determinants of our sample, which represent key criteria for the categorization and identification of clusters before any advanced empirical study. We relied on previous works to define a set of items around which we designed our questionnaire, which allowed us to develop a map reflecting the structural characteristics of the clusters.

Figure 2 : Categorization items derived from the literature review

-Mode of
governance

-Mode of financing

-State labeling

-Seniority

-Sector

-Vocation
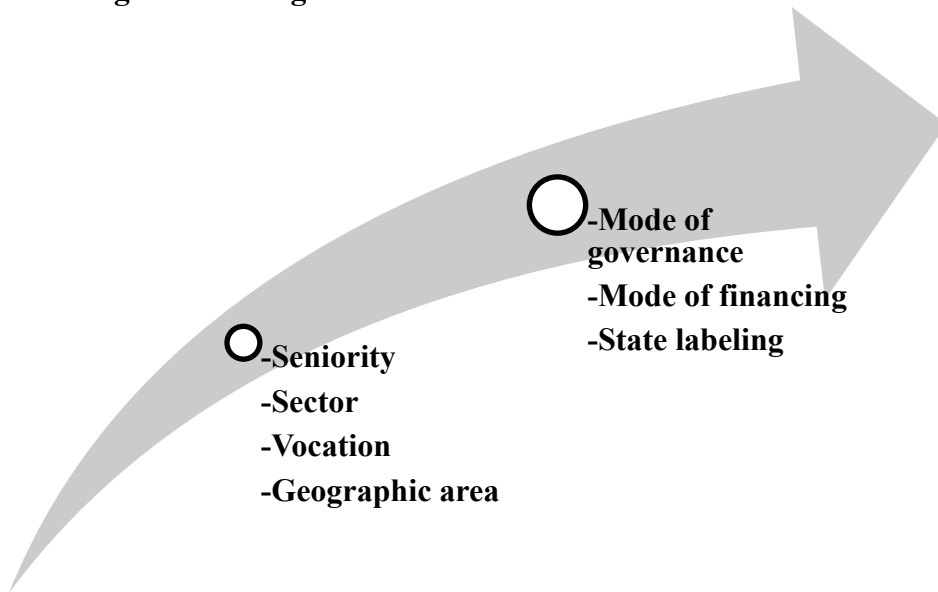
-Geographic area

Source : Elaborated by the authors

Table 2 : Mapping the structural characteristics of Moroccan clusters

Name	Creation year	Sector	Geographic perimeter	Vocation	Governance system	Financing system	Labeling
CE3M	2010	Electronics Microelectronics & Mechatronics	National	Industrial Technological	Private	Mixed	Yes
MDFC	2010	Textile clothing leather & fashion services	National	Industrial Technological Scientific	Private	Mixed	Yes
AHP	2010	Fishing & seafood processing industry	National	Technological Scientific	Private	Mixed	Yes
C2TM	2013	Technical Textile	National	Industrial Technological Scientific	Private	Public	Yes
Maintenance 4.0	2021	Maintenance & industrial digitalization	National	Industrial Technological	Private	Private	In process
MMI	2020	Medical & biomedical industry	National	Industrial Technological	Private	Mixed	Yes
Valbiom	2017	Waste recovery & recycling, renewable energies and environment	National	Industrial Technological Scientific	Private	Mixed	Yes
EMC	2013	Sustainable construction & Building materials and energy efficiency	National	Industrial Technological Scientific	Private	Private	Yes
CISE Maroc	2014	Environmental services & green industry	National	Industrial Technological Scientific	Mixed	Private	No
Menara Cluster	2012	Food, cosmetics & aromatic and medicinal plants	National	Industrial Technological Scientific	Private	Mixed	Yes
AMC	2017	Airport aeronautics & related activities	National	Industrial Technological Scientific	Private	Mixed	Yes
Green H2 Maroc	2021	Hydrogen	National	Industrial Technological Scientific	Mixed	Private	In process
Agrinova	2015	Food & agriculture upstream/downstream sector	National	Industrial Technological Scientific	Private	Mixed	Yes
ENR	2014	Renewable energies & green industry	National	Industrial Technological Scientific	Private	Mixed	Yes
MNC	2010	ICT & digital innovation	National	Technological	Mixed	Mixed	In process
Logipole	2013	Logistics & transport	National	Industrial Technological Scientific	Private	Public	No
Digipole	2022	Digital	National	Technological	-	-	In process

Source : Elaborated by the authors

According to this table, we can observe that clusters have been constantly developing since 2010 in various sectors. However, the clusters created since 2020 operate in purely technological fields, which perfectly aligns with the constructions of previous works. The latter emphasize the role of clusters in promoting new technologies and R&D (Buzard, Carlino, Hunt, Carr & Smit, 2019 ; Loufrani-Fedida & Saint-Germes, 2015 ; Matray, 2010). Furthermore, we have observed that the majority of clusters primarily focus on industrial, technological, and sometimes scientific aspects. A complementarity between these three domains seems essential to enable companies to build a sustainable competitive advantage and maintain a lasting position in the international market (Hobad, Hobad & Kabouri, 2022 ; Achermann, 2019; Kaoud, 2018).

Thus, it emerges from the above that there are two structural conditions that characterize 90% of clusters, namely the mode of governance and financing. Indeed, the Moroccan State encourages actors from all sectors to group into clusters, in order to benefit from a grant contract that allows the governance body to finance its activities in the service of member companies. This aligns perfectly with the findings of previous studies that highlight the crucial role of the State in the creation and sustainability of clusters (Bokov, 2021 ; Hobad, Hobad & Kabbouri, 2022 ; Achermann, 2019 ; Lai, Hsu, Lin, Chen & Lin, 2014). To this end, we note that mixed financing prevails in the structure of clusters, as they benefit from state subsidies and other resources from member contributions, international funds, and sometimes services provided to members.

Regarding governance, more than 90% of our sample enjoy private governance, which originates from the fact that the Moroccan state aims to encourage a "bottom-up" approach and reduce its intervention in financing and the establishment of sectoral policies. Moreover, the research community describes this form of ecosystems as a policy that often originates from private initiative, unlike industrial districts, localized productive systems, and competitiveness clusters which require state intervention to arrange the geographical concentration of actors (Bocquet & Mothe, 2015). However, the cluster, as explained by Porter and implemented by the Ministry of Industry and Commerce, does not necessarily require a movement of geographical planning, unlike other studies that highlight the role of geographical concentration (Matray, 2010).

It is primarily based on relative territorial proximity and a strong federation of actors. Hence the importance of an organization that promotes and strengthens positive interactions through a series of actions (Doré, 2021 ; Bokov, 2021). This makes the cluster a flexible mechanism that allows for strengthening the links between actors through various means that can be economic, geographical, and/or institutional, without having to limit the positive effects of this mechanism to only the companies within a specific geographical perimeter. Moreover, we noted in the above mapping that all clusters cover the entire national territory through their actions, making them open and accessible to all local businesses.

Table 3 : Moroccan cluster intervention levers

Clusters	Innovation development R&D	Cooperation & synergy development	Skills development	Infrastructure development	International development	Accessing subsidies and incentives	Governance and integrated practices
CE3M	×	×	×	×	×	×	
MDFC	×	×	×		×		
AHP	×	×	×	×	×	×	×
C2TM	×	×	×	×	×	×	
Maintenance 4.0	×	×	×			×	×
MMI	×	×	×	×	×	×	
Valbiom	×	×		×	×		×
EMC	×	×	×	×	×	×	×
CISE Maroc	×	×	×		×	×	×
Menara Cluster	×	×	×	×	×	×	×
AMC	×	×	×	×	×	×	×
Green H2 Maroc	×	×			×		
Agrinova	×	×	×	×	×		×
ENR	×	×	×	×		×	×
MNC	×	×	×	×	×	×	×
Logipole	×	×	×	×	×	×	×
Digipole	-	-	-	-	-	-	-

Source : Elaborated by the authors

Through our questionnaire, we were able to identify the positive externalities that guide and drive the actions of the clusters. The matrix above demonstrates that they share the same intervention levers with a precision that varies from one cluster to another. These include levers related to infrastructure development, access to grants and incentives, governance, and integrated practices, which can be classified as divergence levers, given that some clusters do not see these as part of their missions. Nevertheless, it should be noted that the clusters are at different stages of development. There are those who are in the emergence phase,

And others in the development and growth phase and the historical clusters that have reached a certain level of maturity. This means that their intervention levers and positive externalities can differ according to their priorities, which depend on the development stage of each cluster (Bocquet & Mothe, 2009 ; Doloreux, 2004).

According to our interviews with the clusters, we found that approximately 80% of the clusters have a management team that does not exceed 5 members, which could be considered insufficient. Indeed, previous research agrees on the importance of a substantial workforce for successful actions within the cluster (Gautier, 2015 ; Dana & Granata, 2013 ; Bocquet & Mothe, 2009). The international partnerships established since the creation of the cluster vary between 5 and 30. This essentially reflects the dynamics that clusters maintain with international partners and which need to be strengthened to accelerate the externalities related to international development (Héral, Messeghem & Catanzaro, 2019). Similarly, we tried to count the number of partners belonging to the cluster, excluding member companies, to estimate the diversity of actors and assess the territorial anchoring of the cluster. It appears that 63% of the clusters have a number of partners ranging between 15 and 40, while 38% have a number of partners not exceeding 10 actors. To this end, Porter (2000) argues that the performance of a cluster is strongly linked to the diversity of its members and the density of its partnerships. However, these indicators should not be considered as criteria for evaluating or classifying a cluster in relation to its counterparts, given that the performance of a cluster is still an ambiguous notion that depends on the specificities of the sector and the dynamics of its actors.

About the number of member companies, we can note the dispersion of the results. Indeed, the age of the cluster is not always associated with a large number of companies ; some emerging clusters have a larger workforce than the oldest clusters. On the other hand, some clusters that have been present for about ten years have not reached a significant number of members relative to the sector's weight in the economy. This seems to be in line with the results of previous studies which reveal that coordination difficulties among heterogeneous actors could hinder cluster growth (Kaoud, 2018 ; Dana & Granata, 2013). We also observe that the proportion of SMEs in the clusters is more predominant than that of large enterprises. This indicates that this form of ecosystems seems to be the most suitable for the constraints of SMEs and the most accessible in terms of barriers to cluster access (Héral, Messeghem & Catanzaro, 2019 ; Lefevre, 2016).

Thus, the weight of SMEs and GEs in the clusters is due to the fact that more than 90% of the Moroccan economic fabric is composed of TPMEs, which means that the context is an important factor to consider for the reading and interpretation of the evolution of clusters in terms of number or type. Any scientific study on clusters must analyze their structural characteristics before proceeding to a more in-depth empirical analysis. Hence the importance of our contribution, which allows for a quantitative and qualitative mapping of national clusters, while taking into account the characteristics of the studied context.

Figure 3 : Geographical mapping of clusters in Morocco
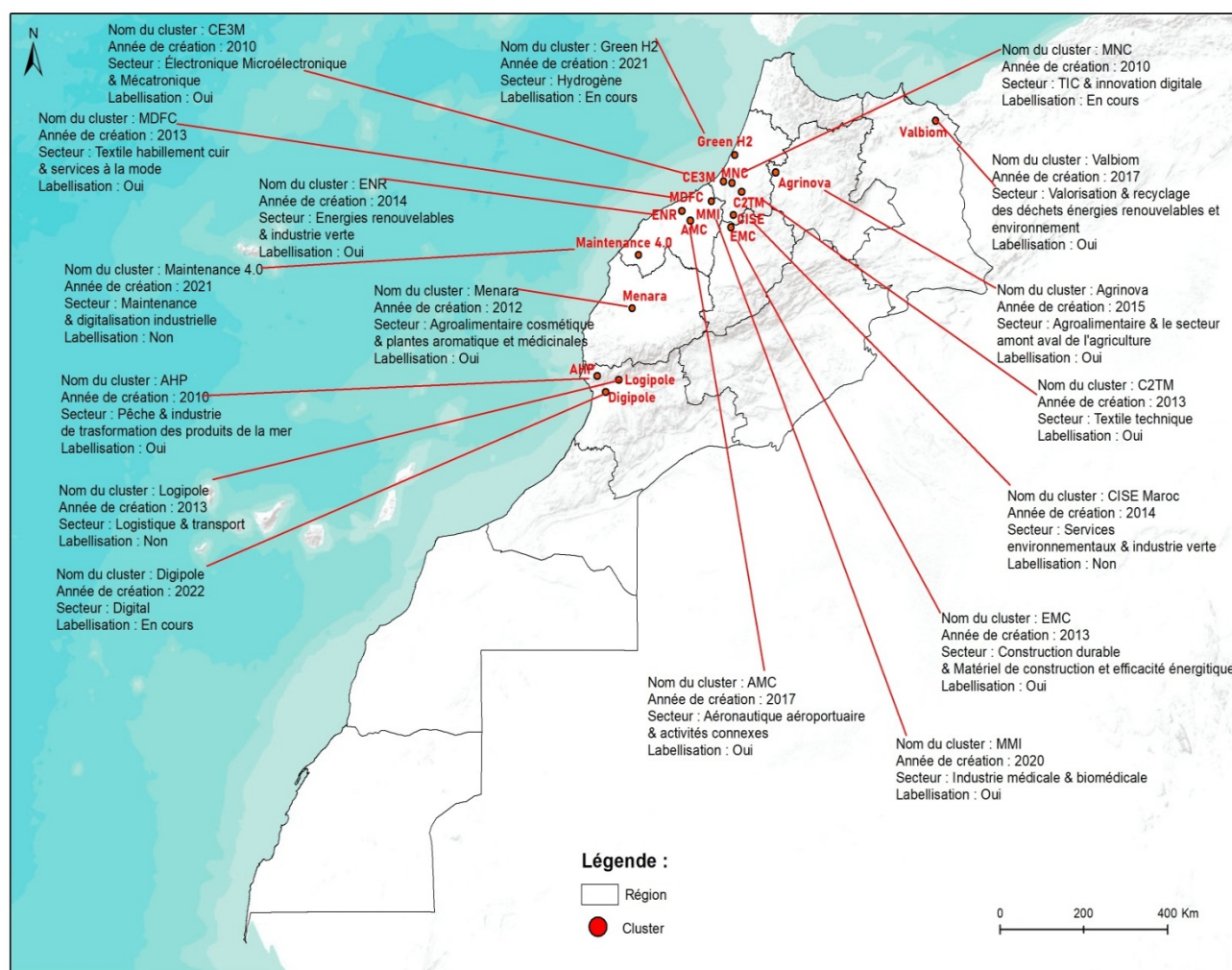
Source : Elaborated by the authors

In the context of this research, we have noticed since the initiation of this policy in 2010, the lack of updated data on the evolution of clusters in Morocco. Thus, we conducted this exploratory study to collect data that would allow us to delineate the structural and geographical boundaries of these organizations. It turns out that 60% of the clusters are located along the Casablanca, Settat, Rabat axis. While 30% of the clusters are located in Safi, Marrakech, and Agadir. Moreover, the remaining 10% are located in Oujda, Fès, and Meknès. Unlike integrated industrial platforms and technopoles, this form of clustering does not require dedicated sites for the concentration of businesses. Indeed, it is an ecosystem based on geographical proximity thanks to a common territorial space. The clusters are more concentrated along the Casablanca Settat axis, given the notable dynamism of this region. It also appears from this mapping that 65% of the clusters are labeled by the Ministry of Industry and Commerce, except for one which is labeled by the Ministry of Agriculture and benefits from a grant contract different from those labeled by the Ministry of Industry and Commerce. Thus, 18% are in the process of being certified and 17% are not currently certified. We specify that the Ministry of Industry and Commerce has launched a call for projects for the labeling of new clusters.

However, according to our study, we estimate that these clusters are in the creation phase and are not yet operational, given the absence of any information related to their management structure. These clusters are : MTI (Morocco TraIndustry Cluster) specialized in the railway industry and COER (Agroindustrial Cluster Oum Er-rbia), dedicated to the industrial valorization of natural and agricultural resources.

6. Conclusion

This work allowed us to develop an analytical map analyzing the state of evolution of clusters organized in the form of non-profit associations, to better understand their specificities, their intervention levers, and the characteristics inherent to their governance and financing structures. This contribution seems to be unique in the absence of previous works describing the reality of clusters in numbers and key indicators in the Moroccan context. The objective is to contribute to enriching the contributions of previous works and to produce a scientific paper that highlights the dynamics of cluster evolution, based on the data collected through our structured interviews. The aim is to draw insights that could improve the levers of clusters in Morocco. It turns out that clusters each have considerable weight in their respective sectors. SMEs represent the category of companies most interested in this mechanism, due to its sensitivity to the territorial factors necessary for their competitiveness. Like any empirical work, this paper has its limitations. Indeed, we relied on a closed questioning approach through directive interviews. Nevertheless, we are aware of the existence of information biases in the absence of a national cluster observatory providing access to reliable information, as is the case in European countries that all place crucial importance on databases and monitoring bodies dedicated to this mechanism. Finally, we can conclude that the cluster is a complex phenomenon that could never be evaluated by a simple treatment of descriptive data, hence the importance of advanced research helping to grasp its dynamics and effects in a more advanced manner both empirically and methodologically.

7. Bibliography

- Achermann, G. (2017). Pôles territoriaux d'innovation et modernisation économique : la politique des clusters territoriaux d'innovation en Russie (Thèse de doctorat). Centre lillois d'études et de recherches sociologiques et économiques, Université de Lille 1 Sciences et Technologies.
- Achermann, G. (2019). Territoires d'innovation en Russie : Ambitions et contraintes d'une politique de clusterisation, L'Harmattan, Paris.
- Amine, R. (2016). Les clusters au Maroc : Vers l'émergence d'une nouvelle politique industrielle territoriale. Marché et organisations, 26(2), 93-120.
- Aydalot, P. (1986). Milieux innovateurs en Europe, GREMI, Paris.
- Bagnasco, A. (1988). La costruzione sociale del mercato : Studi sullo sviluppo di piccola impresa in Italia. II Mulino, 13, 9-45.
- Becattini, G. (1989). Modelli locali di sviluppo, II Mulino, Bologna.
- Belderbos, R., Du, H. S., & Lokshin, B. (2015). The importance of being inventor : Innovation and firm performance in a panel of Dutch firms. Management International Review, 55(5), 557-587.
- Benhar, Z. (2016). Les déterminants de la performance des sous-traitants aéronautiques marocains dans la région du Grand Casablanca. [Thèse de doctorat, Groupe Institut Supérieur de Commerce et d'Administration des Entreprises].
- Blanc, C. (2004). Pour un écosystème de la croissance. Rapport au Premier Ministre, Assemblée Nationale, 1(1), 1-81.
- Bocquet, R., & Mothe, C. (2009). Gouvernance et performance des pôles de PME. Revue Française de Gestion, 10(190), 101-122.
- Bocquet, R., & Mothe, C. (2015). Le rôle de la gouvernance des clusters dans les capacités dynamiques d'absorption des PME. Management international, 19(2), 177-194.
- Boustane, M. (2023). L'échec du projet de création d'un cluster à Fès : De la conception d'une ambitieuse plateforme intégrée (P2I) à la réalisation d'une banale zone industrielle. Les Cahiers d'EMAM. Études sur le Monde Arabe et la Méditerranée.
- Brusco, S. (1989). Piccole imprese e distretti industriali, Rosenberg & Sellier, Torino.
- Buzard, K., Carlino, G. A., Hunt, R. M., Carr, J. K., & Smith, T. E. (2019, novembre). Localized

knowledge spillovers: Evidence from the spatial clustering of R&D labs and patent citations (Working Paper No. 19-42). Federal Reserve Bank of Philadelphia.

- Chalaye, S., & Massard, N. (2009). Les clusters : Diversité des pratiques et mesures de performance. Revue d'économie industrielle, De Boeck Université, 4(128), 153-176.

- Chaudey, M., & Dessertine, M. (2018). Impact sur l'emploi de la participation aux projets de R&D des pôles de compétitivité : Méthode et résultats. Revue d'économie industrielle, 162(2), 73-98.

- Chesnel, S., Molho, J., Morteau, H., & Raimbeau, F. (2013). Les clusters ou districts industriels du domaine culturel et médiatique : Revue du savoir économique et questionnement. DEPS, Ministère de la Culture et de la Communication, Paris, 1-59.

- Courlet, C., & Pecqueur, B. (1992). Les systèmes industriels localisés en France : Un nouveau modèle de développement. In G. Benko & A. Lipietz (Eds.), Les Régions qui gagnent : Districts et réseaux, les nouveaux paradigmes de la géographie économique (pp. 81-102). Presses universitaires de France.

- Dana, L., & Granata, J. (2013). Evolution de la coopétition dans un cluster : Le cas de Waipara dans le secteur du vin. Journal of Small Business & Entrepreneurship, 26, 429-442.

- Datar. (1998). Réflexions sur le volet transfrontalier des Contrats de Plan Etat Régions.

- De Bresson, C., & Hu, X. (1999). Identifying clusters of innovative activity : A new approach and a toolbox. In Boosting Innovation : The Cluster Approach (pp. 27–60). OECD.

- Defélix, C., Culié, J. D., Retour, D., & Valette, A. (2008). Travailler au sein d'un pôle de compétitivité : Un défi pour la gestion des ressources humaines ? In R. Beaujolin-Bellet, P. Louart, & M. Parlier (Eds.), Le travail, un défi pour la GRH (pp. 174-191). Éditions de l'Anact.

- Ditter, J. G. (2005). Les systèmes productifs locaux vitivinicoles : Concepts, exemples et enseignements possibles pour la France et la Bourgogne. Cahiers du Ceren, 2-15.

- Doloreux, D. (2004). Regional innovation systems in Canada : A comparative study. Regional Studies, 38(5), 481–492.

- Doré, G. (2021). Économie circulaire et écologie industrielle : Approche empirique à partir d'expériences de clusters et de territoires. Développement durable et territoires, 12(1).

- Dujardin, C., Louis, V., & Mayneris, F. (2015). Les pôles de compétitivité wallons Quel impact sur les performances économiques des entreprises ? The Walloon competitiveness clusters and their impact on firms' economic performances?. IRES Discussion Papers.

- Duranton, G., Martin, Ph., Mayer, T., & Mayneris, F. (2008). Les pôles de compétitivité : que peut-on en attendre ?, Éditions rue d'ulm, Paris.

- El Alami, D. (2019). La gouvernance des clusters et dynamique des territoires en Europe. Quel enseignement pour le Maroc ? Revue Internationale des Sciences de Gestion, 2(3), 699-722.

- El Waatmani, S., & Makhtari, A. (2018). La dynamique des clusters au Maroc : Enjeux et limites d'un modèle importé. Revue Marocaine de Recherche en Management et Marketing, (20), 45–60.

- France Clusters. (2016). Success stories de Pôles et clusters dans l'internationalisation des PME de leur secteur. Dossier de presse.

- Fromhold-Eisebith, M., & Eisebith, G. (2005). How to institutionalize innovative clusters ? Comparing explicit top-down and implicit bottom-up approaches. Research Policy, 34(8), 1250-1268.

- Gautier, A. (2015). La labellisation comme dispositif d'appropriation de la RSE : Le cas d'inter-clusters du numérique (Thèse de doctorat en économies et finances). Université Jean Monnet - Saint-Étienne.

- Giordano, Y. (2003). Conduire un projet de recherche : Une perspective qualitative. Paris, France : Éditions EMS.

- Hamdouch, A. (2008). Conceptualisation et analyse des clusters : Les espaces et les réseaux de l'innovation dans la littérature récente. Archivio di Studi Urbani e Regionali, 92, 30-48.

- Héral, M., Messeghem, K., & Catanzaro, A. (2019). Accompagnement des stratégies collaboratives à l'international : Le cas des éco-PME. 11e Congrès de l'Académie de l'Entrepreneuriat et de l'Innovation, Montpellier, France.
- Hobad, L., Hobad, S., & Kabbouri, A. (2022). The contribution of competitiveness clusters to local development: Case of the TANTAN ocean clusters. International Journal of Accounting, Finance, Auditing, Management and Economics (IJAFAME), 3(5-2), 442-451.
- Jacobs, D., & de Man, A. (1996). Clusters, industrial policy and firm strategy. Technology Analysis & Strategic Management, 8(4), 425-438.
- Kaoud, H. (2018). Une analyse de la gouvernance et de l'innovation des clusters basée sur le modèle de la Triple-Hélice : Les cas des clusters TIC en Égypte (Thèse de doctorat). École doctorale Sciences économiques et sciences de gestion, Université de Nantes, Université Bretagne Loire.
- Ketels, C., & Sergiy, P. (2013). Clusters and the New Growth Path for Europe. WWWFor Europe, Working Paper, 14, 1-73.
- Lachgar, T., & Benmoussa, M. (2020). Gouvernance des clusters et performance commerciale des entreprises membres dans le contexte marocain : Rôle du leadership et de la confiance. Revue internationale du marketing et management stratégique, 2(2), 1-22.
- Lahrach, R., Helmi, D., & El Makhad, H. (2020). Intelligence territoriale descendante : Cas d'agglomération d'entreprises au Maroc. Dossiers de Recherches en Économie et Gestion, 9(1), 249-268.
- Lai, Y.-L., Hsu, M.-S., Lin, F.-J., Chen, Y.-M., & Lin, Y.-H. (2014). The effects of industry cluster knowledge management on innovation performance. Journal of Business Research, 67(5), 734–739.
- Lartigue, S., Largier, A., Soulard, O., & Tarquis, C. (2008). Clusters mondiaux : Regards croisés sur la théorie et la réalité des clusters. Identification et cartographie des principaux clusters internationaux. Institut d'Aménagement et d'Urbanisme de la Région d'Ile-de-France, 1-181.
- Maillat, D. (1995). Territorial dynamic, innovative milieu and regional policy. Entrepreneurship and Regional Development, 7(2), 157-165.
- Marshall, A. (1919). L'industrie et le commerce, Giard, Paris.
- Marshall, A. (1920). Principles of Economics, Macmillan, 8th edition, London.
- Martin, R., & Sunley, P. (2003). Deconstructing clusters : Chaotic concept or policy panacea. Journal of Economic Geography, 3(1), 5-35.
- Matray, M. (2010). Le dynamisme d'évolution des pôles de compétitivité territoriaux [Thèse de doctorat, École Doctorale des Sciences Économiques et de Gestion (EDSEG)].
- Mokhtari, B., & Ettaibi, M. (2021). Le management des connaissances (MC) levier de compétitivité et de performance organisationnelle (COPO) : Cas de l'industrie aéronautique marocaine dans le cadre du Plan Emergence. Revue Française d'Économie et de Gestion, 2(3), 149-178.
- Mueller, E., & Fuchs, S. (2023). What holds a regional cluster together ? The role of cluster actors' identification and citizenship behavior for the effectiveness of a regional cluster. International Studies of Management & Organization, 53(1), 1–23.
- Nassiki, M., & Ahrouch, S. (2020). Clusters industriels et performance d'innovation des petites et moyennes entreprises (PME) : L'effet médiateur des coopérations interorganisationnelles. Innovations, 62(2), 75-101.
- Perret, V., & Girod-Séville, M. (2002). Epistémologie et méthodologie qualitatives en sciences de gestion. Paris, France : Éditions Vuibert.
- Perrin, M. (1992). Centres de ressources et autonomie guidée. Les langues modernes, 1, 21-36.
- Porter, M. (1990). The Competitive Advantage of Nations, The Free Press, New York.
- Porter, M. (1998). Clusters and competition : new agendas for companies, governments and institutions, On competition, Harvard Business School Press, Boston.

- Porter, M. (2000). Location, competition, and economic development : Local clusters in a global economy. Economic Development Quarterly, 14(1), 15-34.
- Porter, M. (2003). The economic performance of regions. Regional Studies, 37(6-7), 549-578.
- Porter, M. (2004). Competitive Advantage : Creating and Sustaining Superior Performance, Free Press.
- Rapport au Premier ministre. (2003). Une nouvelle politique de développement des territoires pour la rance Contribution au débat sur la décentralisation. L'Europe et l'aménagement du territoire.
- Suire, R., & Vicente, J. (2008). Théorie économique des clusters et management des réseaux d'entreprises innovantes. Revue Française de Gestion, 184, 119-136.
- Thiétart, R. A., Forgues, B., & al. (2014). Méthodes de recherche en management (4e éd.). Paris, France : Dunod.
- Torre, A., & Lefranc, C. (2006). Les conflits dans les zones rurales et périurbaines. Premières analyses de la presse quotidienne régionale. Espaces et sociétés, 124-125(1-2), 93-110.
- Wacheux, F. (1996). Méthodes qualitatives en sciences de gestion (2e éd.). Paris, France : Éditions Economica.
- Waelbroeck, E., Morin, S., & Rodriguez, M. (2006). Avantages retirés par les entreprises de leur participation à un cluster : Étude exploratoire. DATAR, 1(1), 1-28.
- Zeitlin, J. (1992). Industrial districts and local economic regeneration : Overview and comment. In F. Pyke & W. Sengenberger (Eds.), Industrial districts and local economic regeneration (pp. 279-294). International Institute for Labour Studies.

8. **Annexes**

Questionnaire

General Questions

1. First and last name of respondent
2. Cluster name
3. What is your position within the cluster?
4. How many years of experience do you have with the cluster?
5. What year was your cluster founded?
6. In which region is your cluster located?
7. What sector do you operate in?

Specific questions

8. What is your cluster's mission?
9. What are your cluster's main activities?
10. What is your cluster's vocation?
11. How many employees work in the cluster?
12. What are your cluster's levers for action?
13. Is your cluster accredited by the Moroccan Ministry of Industry?
14. How many employees work in your cluster?
15. How many international partnerships have been established since the cluster was created?
16. What is the number of the cluster's partner institutions (public institutions, universities, research centers, etc.)?
17. How many companies are members of the cluster?
18. What percentage of cluster members are SMEs?
19. What percentage of cluster members are large companies?
20. What are your cluster's sources of funding?
21. How is your cluster governed?