

Cluster: the globalization of economies

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Abstract: Globalization generated advanced competitive schemes that forced human beings and companies to take new initiatives in order to face the new business models that are being developed. A new scheme, model or strategic tool is the Cluster, which helps companies, governments and the community in general to have an opportunity to compete at a global scale. This paper presents a theoretical-conceptual overview. It makes reference of the contributions that have been made to the cluster concept: The globalization of the economy has been consolidating over time and local regions accept it to mold new strategies for competitive development. The constitution of clusters is not a fashion, it is a local development trend, which seeks to penetrate globalized markets, but with the conviction that it cannot be achieved in "solitary", so that the "collectivity" of sectorial business efforts, becomes the alternative for the formation of the cluster and thus be able to effectively meet the exigencies of globalization. Therefore, this paper focuses on conceptual development around clusters and globalization, from different chronological views of development.

Keywords: Cluster, globalization, competitiveness, development strategy

Received: August 1, 2019. Revised: August 5, 2022. Accepted: September 1, 2022. Published: September 9, 2022.

1. Introduction

The changes that occur in the regions are considered the result of economic, technological, strategic, innovation and development changes and other factors that make productivity a chain of shared value. The same ones to which companies are forced, in the face of the demands and new trends in the processes of globalization and the opening of markets to international scenarios; more specifically, in developing economies that are little concentrated and not saturated. Thus, as these transformations led companies to have new administrative market, sales and finance structures as well as new production systems, as proposed by [9], "*These transformations led to new forms of economic and business organization to face competition, which led to the formation of the cluster, which symbolizes regional development in modern times*".

This document will address two specific issues in its development, the cluster and globalization, as well as its conceptualization from various authors, which have contributed to its understanding and adaptability by companies attached to the same sector and being aware of the implications of belonging to a cluster, adopt it as a growth and development strategy to achieve the levels of competitiveness and productivity required.

2. Theoretical Approach

It has been established, according to the readings carried out, that Clusters are considered a strategy of agglomeration of companies that seek to alienate themselves in their market, financial and production structures in order to reach the levels of productivity and competitiveness that international markets increasingly demand [31]

As stated by [24], "*clusters are defined as sufficiently dense sets of enterprises in complementary industries operating in a geographic region, aligned to serve a specific final demand*". This is how collectively they help to generate value, which is reflected in the development of the regions and of the country in general; a situation that allows companies to feel supported by the government in order to take advantage of globalization benefits; it cannot be ignored that within all this context companies must comply with appropriate administrative and organizational guidelines internally to be integrated into the cluster.

For authors such as [11], who considers that companies in their business development have been dealing with a series of stages that have helped them to overcome national barriers and have placed them in the context of globalization; a situation that sometimes allows them to make structural decisions

regarding their development. This is how clusters are considered to be constituted as a business development strategy, without this being understood as the loss of identity of large companies. With regard to this situation [3], notes that "*In fact, clusters constituted around large companies and subsidiaries of transnational companies are the norm rather than the exception,*" which leads to determine the importance of small companies around the conformation of clusters also highlighting that their administrative and organizational structure facilitates the adaptation of their processes to the exigencies outlined for the conformation of the cluster.

Cluster formation can be seen as an innovative process, and as such [7] "*Innovation is an instrument that allows us to know the capacity of a company to create new concepts of goods and services, or to develop new work and commercial processes, as well as to qualify its ability to acquire new knowledge and/or technologies*", a situation that contributes to the formation of clusters; This is how a description of the factors that contribute to the innovative and competitive development of companies is made, addressing each of the areas that are part of the organization and the role they play in this process, which allows having integrated and structured processes to meet the demands of the business environment in which they are located; [25] presents a new vision: "*clusters affect competition in three broad directions: First, by the productivity growth of companies established in the area; second, by the management, direction and movement of innovation, which supports future productivity growth; and third, by the stimulus to the formation of new businesses, which expand and strengthen the cluster.*" This leads to the identification of the role to be played by academia, training and innovation centers, research and development centers, among others, which support the conformation, implementation, development and evaluation of the cluster, in any of its local, regional, national and international dimensions, but always having competitiveness and productivity as a foundation or starting point.

For [20], "*Collective and systemic competitiveness seems to be the alternative to be followed, and that competitiveness reproduces the paradox that entrepreneurs have to cooperate to carry out their mercantile movements as a condition for capital accumulation*", which helps to have a different vision of business cooperation, focused on capital factors, where competitiveness becomes a collective and integrated space centering around the same business purpose.

The cluster issue has been addressed since the nineties, when the author [26] considered that "*clusters are geographical concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions...*".

Other considerations that have been built around the conceptions that we have of the cluster are those exposed [14] who determines that "*industrial scaling implies moving to activities of greater value in global supply chains*", this is how some factors that generate value are identified when the productive scaling is established, business associations or clusters, all identified with the same objective, generate sectorial and regional development from the local level:

- (a) *The sequences of export roles are contingent, not invariant and therefore, characteristic of industrial escalation.*
- b) *Organizational learning in the global supply chain, to improve the position of companies and regions in international trade and production networks, participation in the global value chain is important as it places companies and economies in potentially dynamic learning curves.*
- c) *Physic, human and social capital is relevant and effective in networks.*
- d) *The escalation process sustainment within a global value chain, which implies having production chains backwards and forwards, and access to the type of learning that occurs through these segments.*
- (e) *Scaling up enterprises, in terms of changes along or between commodity chains, is important but not sufficient to ensure positive development outcomes.*

Another conceptual approach with respect to the cluster is the one presented by [8] "*companies geographically close, vertically and horizontally related, that involve local infrastructures to support companies, with a shared vision of business development based on competition and cooperation in a specific field or market*". Geographical proximity facilitates the exchange of products and services between companies that constitute an economic sector, as well as it fortifies relations of trust, responsibility and confidentiality, established in cooperation and integration agreements, for the conformation of the cluster.

In this regard [5], constitutes that cluster concepts "*do not contradict the traditional definitions of local productive systems that characterize industrial districts. In fact, they have been extracted precisely from the district context, for their extensive*

application to territories other than industrial districts and at different territorial scales". what, for facts give to know the local development, as a proposal of cooperation and mutual managerial agreement, that within a medium and long-term period can get to generate competitive advantages, that for some theorists this may be conceived as "advantageous" with respect to the conditions of locality in which the companies are located, since for some of them the conditions of production can be an opportunity, with respect to the market conditions that can be a weakness and it is from this perspective that the concepts of reliability, responsibility, cooperation and information transfer must be understood, This is how a strong growth of the cluster is generated by the arrival of new companies that enter and generate an acceleration of the process and imitation, being more focused on the technological trajectory, so that the variety in the cluster is reduced [16]. It reaches a critical mass sufficient to generate economies of agglomeration that increase their attractiveness and it is precisely at this stage when companies and the cluster have higher innovation rates.

The sets of actors and productive or cooperative relations form a network of exchanges that allow the economic units of the same system to achieve individual and common objectives. Among the types of networks there are business networks, production chains and so-called clusters, which in their maximum denomination can be very oriented towards innovation as well as scientific and technological development, even constituting innovation systems; however, what is important is to move from a mere economic agglomeration to an active collaboration that leads to mutual adaptation and interdependence between companies and the different actors that regulate production and marketing relations in the most efficient way.

According to what was proposed by [29] the Clusters seek the *"integration, analysis and agreement of objectives for a productive chain or specific sector, where the actors and participants are determined by establishing common objectives that benefit each of the participants"*, a situation that helps to strengthen regional entrepreneurial development, in the same way it allows to understand the degrees of participation that the companies that adhere to a cluster should have, each time that the complementation that must exist between them, must be read in terms of recognizing their business weaknesses and complementing each other through the strengths that must exist between them.

For [9], the clusters are framed in two scenarios called the "intra-company cooperation" and the

"exchange of information", which allow them to determine the factors of development that the companies must have and that transcends to the local field, regarding this topic, the issue of subcontracting is approached, that in accordance with what [21] proposes, it becomes a strategic ally that companies must have for the accomplishment of some of the activities either of the productive process and or services; For [12] subcontracting is *"a result of company strategies"*, whose objectives were put into play by the growth of inventories and financial costs",... "Industrial subcontracting has created the backbone of the industrial and commercial chains that are currently registered in the global scope", where the two authors came to the conclusions such as subcontracting allows: 1) Increase market segments or market niches; 2) Maintain a technological balance in the production processes through quality and just-in-time; and 3) configure a cost structure capable of balancing the company's profitability."

Based on the article proposed by [19] *"A cluster is made up of different aspects: First, we have the member organizations that are formed especially by companies, but universities are also involved, professional associations, managerial or technological development centers, public offices and even social organizations. A cluster presents three types of entities: the base-line ones, consisting of the firms that produce the articles or provide the central services such as clinics, health promotion companies and hospitals in the case of health; a second component is the complementary system such as suppliers, distribution channels, development and research centers and finally, a third one that is the support strip such as professional, guild and government entities"*, a situation that makes it necessary to attach great importance to government and corporate entities, business development centers, the academia and other actors that intervene in the conformation of the cluster, validating what was previously mentioned and that is, clusters are not a fashion, but a development strategy aimed at reaching international markets.

Another concept of cluster, is the proposal made by [10] *"whose aim would be to the improvement of the competitiveness of companies through the creation of business fabrics. Therefore, it is important to identify the sectors with productive potential, and for this purpose the coefficient of location or relative specialization was used"*, a situation that could happen, after several studies of the different types of associativity that occur among companies in the same sector and whose business objective is focused

on reaching levels of competitiveness and productivity in order to access the global market.

Globalization is not a concept created in the nineteenth and twentieth centuries, it is a term that was originated in ancient civilizations, but thanks to the development of commercial and productive structures of companies, it has been consolidating as a development strategy for localities and thanks to the conformation of unions, conglomerates and clusters, these developments have transcended the frontiers of the regional and national to reach the international, the aforementioned has helped to present some transformations, such as those proposed by [22]:

- A greater ability of the popular sectors to organize.
- The increase in the effectiveness of municipal public policies, facilitating the transfer of new capacities to society.
- The improvement in the democratic quality of political institutions, overcoming the paradigm of paternalistic clientelism.
- The creation of multi-actor spaces for dialogue, reflection, consciousness of problems and the search for negotiated solutions.
- Re-articulation of relations between civil society and government.

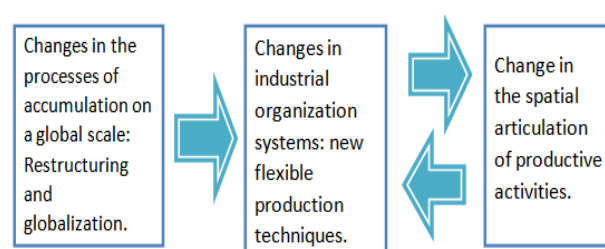
These transformations not only had market and product implications, but also social and political ones, which allowed companies to meet market demands in a timely manner.

From the studies that have been carried out by the [4] (National Central Bank) economic globalization is understood as *"the integration of national economies with the international economy through different mechanisms, among which the following stand out: The trade of goods and services; the movement of money between countries in search of financial profitability or for the creation of companies in the productive sector; the international flows of workers and people in general; and, lastly, the flows of technology"*, which allows giving greater importance to the local development endeavor, not only from the integration of the companies, but also from the goods and services production dynamics and therefore their commercialization, which must have a vision of greater scope towards the international markets, reflected in factors of innovation and technological development.

From the perspective of the globalization of the economy, some of the contributions made by [18] are taken up again, *"we consider as a starting point the processes of structural change in world economic activity, which occurred during the last decades of the twentieth century, which forced the*

search for new alternatives of local and regional development with models adjusted to the new paradigms of the world economy", being this a fundamental scenario for companies that form or are part of the same economic sector to look for alternatives of associativity and development that allow them to face these new challenges. Although the business dynamics affect the sector dynamics, these in turn affect the dynamics of local and regional development, help to the conformation of new production systems, it is as well as [27], propose the following scheme of the impacts that globalization has generated:

Figure 1: The territorial impact of globalization.



Source: Taken from [27]

The aforementioned makes it possible to establish the importance that the changes in company structures have had for the development of the regions, not only at the internal level of the companies that make up the same sector and that help to delimit different types of associations known as industrial districts and agglomerations or as for the case of this paper's central theme, but also in the structures of markets and production systems.

It should be noted that from the perspective of cluster generation, the management of the organization plays a fundamental role, provided that its development guidelines are aimed at generating spaces for participation, development and integration of employees in the processes that are being carried out; a situation that is reflected in the improvement of each one of the areas of the organization and that as a whole consolidate the creation of the cluster towards business competitiveness.

Innovation

Considered as the process of change that companies make to become competitive, be sustainable in time, meet market demands opportunely, generate improvement scenarios and adaptability to new

processes, without losing the essence of the company, leaving aside its principles of mission, strategy and human development, but always projecting a scenario that is competitive and sustainable in the long term, but that is built in the short and medium term [1]

Some of the factors defined to drive innovation in companies and that have to be addressed by managers, administrators and entrepreneurs, according to the behavior of the economies of the countries, have successfully allowed them to leverage the changes generated, are:

Table 1: Agents that impulse business sophistication and innovation.

BUSINESS SOPHISTICATION	INNOVATION
Local suppliers, quantity	Ability to innovate
Local suppliers, quality	Quality of scientific research institutions
Cluster, development status	Companies' expenditure on Innovation and Development
Nature of competitive advantage	University-Industry Collaboration
Value Chain Width	Public procurement of high-tech products
International distribution Control	scientists and engineers Availability
Production processes Sophistication	Utility Patents
Marketing processes Scope	
Willingness to delegate authority	

Source: Data adapted from [15]

Innovation as a strategic process, [23], is based on actions and business development activities that generate: "a) Organizational environments and spaces for the creation of ideas, b) Willingness to exploit them and c) Efficient management procedures that allow organizations: Understand, design, implement and evaluate innovative strategies to promptly respond to changes caused by the business environment requirements in which they are located, equally, it has to keep in mind that to respond to external changes development strategies must be generated within the organization itself, being this a huge responsibility of the manager, manager or entrepreneur, who has to generate the

spaces for participation, development and integration of collaborators in each of the processes that are carried out to make innovation a process with competitive results.

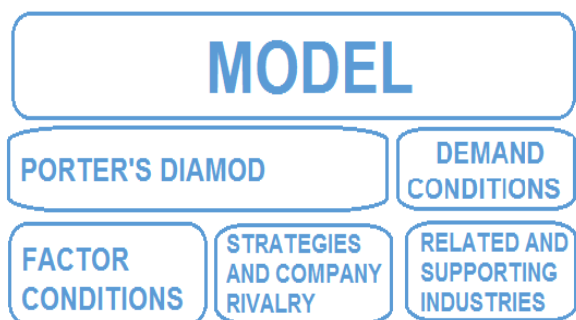
It is defined by [13], as "the ability of a nation to meet its economic policy objectives, especially in terms of economic growth and job creation, without generating difficulties in the balance of payments". In some of the texts consulted such as those of [30], who makes an analysis on the competitiveness from different sources, it is worth pointing out that there are different opinions on the matter, some positive, such as those exposed by [24], "*The competitiveness of a nation depends on the capacity of its industry to innovate and improve*", other as exposed by [17], who "*affirms that the term competitiveness is used without any consideration of its meaning. This fact can be attributed to the lack of a concise definition and to the diffusion of a plethora of isolated definitions that introduced the economic works, without taking solid theory as base on the competitiveness*".

Defined by the World Economic Forum [2], as "*the combination of institutions, policies and factors that determine a country's level of productivity. The level of productivity, in turn, establishes the level of prosperity that an economy can maintain in the medium and long term*".

3. Academic Debate

The cluster: Globalization of the economy, is consolidated as a strategy for business development, provided competitiveness and productivity are the basis or starting point, as presented in the "*Porter's Diamond*" also known as the "*Competitive Diamond*", which serves as a basis for the development of clusters, observing the complexity of its application, but determining the importance of developing them. When reference is made to industry, this means any of the sectors, whether industrial, service or commercial.

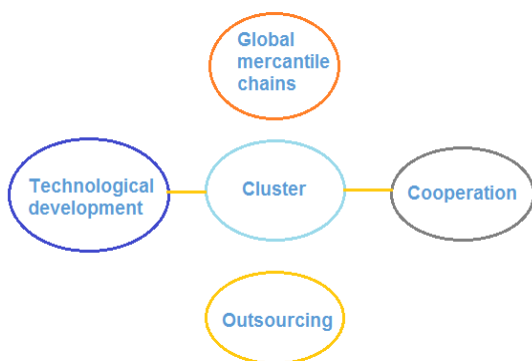
Figure 2: The competitive diamond.



Source: taken from [24]

While clusters are based on "intra-company cooperation" and "information exchange," they are consolidated by identifying determining factors that generate value thanks to the information that is transferred between companies seeking to partner in the face of globalization: (see figure 2)

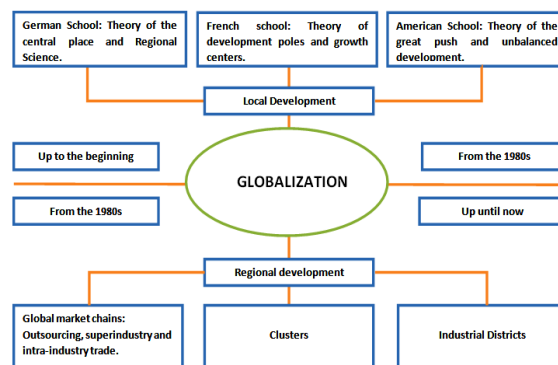
Figure 3: Determinants of Clusters



Source: Taken from [9]

Business globalization can be understood as the transition that took place between different schools of economic development before and after the 1980s, which has allowed globalization to be recognized not simply as a market operation, but as a scenario of business transformations specific to each locality, as shown in the graph.

Figure 4: Evolution of regional development as a theoretical concern.



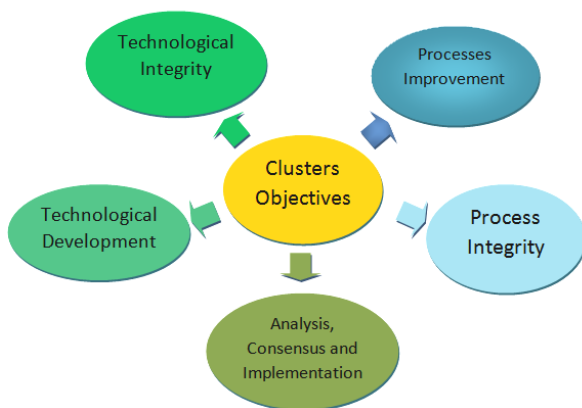
Source: Information taken from [9]

Geographical proximities become a competitive advantage for companies that according to their market , production and financial, and personnel structures, are willing to form a cluster that would allow them to enter into the globalization processes, but as it was stated at the beginning of this writing, they cannot do it in "isolation" and consequently the conformation of " business groups ", will allow them to effectively meet the proposed objectives in the medium and long term, which are reflected in the development and strengthening of the sector, and of the geographical localities where the cluster is located, are decisive for achieving competitiveness and productivity, while achieving volumes of exportable supply.

The conformation of the cluster, to face the challenges of globalization, the clusters are consolidated from the perspective of trust, credibility, responsibility and confidentiality of the agreements and commitments that are assumed by each of the companies involved, it should be noted that the conformation of the cluster does not demand companies to give up their processes and procedures, but rather to generate scenarios for improvement and sophistication, succeeding in forming a Public-Private Alliance.

Other elements that must be considered for the formation of clusters and that allow them to meet the demands of globalization in a timely manner is the active participation of unions, government agencies, other economic actors and that among all mark out regional development, towards an economic globalization, therefore the contributions of [14] cannot be isolated to a learning process based on proposal, implementation and evaluation of the cluster, thereby rescuing the objectives of the cluster.

Figure 5: Objectives of the clusters



Source: Own construction, based on contributions from [14]

The forces that determine the dynamics of the cluster and that are exposed by [19], lead companies to generate dynamics of innovation and development in their processes and procedures from their internal perspectives, attending quality parameters that lead them to meet the demands of competitiveness and productivity, such forces are:

- 1- *Endogenous development*, which is established in the vertical and horizontal lines.
- 2- *The attractive force* that directs companies, talent, information and knowledge towards the cluster and increases its profitability.
- 3- *The external forces* that act on it to change its course.
- 4- That of *propulsion*, by means of which the same group acts on the environment, changing it.

4. Conclusion

In conclusion, clusters are an alternative for business development, local, regional and national; to eventually achieve the globalization of the economy. It is a process that is built from the agreement of internal and external wills, where each actor has its role and function, recognize the business potential and strengthen the weaknesses that companies may indeed have.

It is not a matter of obligation; it is a matter of will.

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