"Clusters as a factor of competitiveness of candy industry companies in Mexico"

Mgr. Juan Carlos Neri Guzmán

Promotor: dr hab. Inż. Mariusz Bednarek , prof. SAN ;

tutor: dr Zofia Patora -Wysocka

Summary dissertation

1.   Relevance of the cluster in Mexico as a factor of competitiveness

In eleven years Mexico has fallen 14 places at a global level in competitiveness[1]. Therefore, it is of vital importance for the country implement innovative policies to improve its competitive position. Cluster policy represents a paradigm in the theory of industrial development, as it has proven to be a useful strategy to promote the competitiveness of businesses (in sectors of high or low technology) in a context of globalization.

This research focuses on the study of the cluster as factor of competitiveness in the candy industry, part of the food industry, which is considered one of the six strategic sectors to promote the competitiveness in Mexico [2], This industry contributes nearly 10% of gross national product.

The research in Mexico was made by using the state of San Luis Potosi as a representative case, considering it is the fourth most important candy producer in the country and its geographical location for the export of products (Chapter III).

2.   Originality

According to the author, the originality of the thesis consists of:

- It represents an alternative way to promote competitiveness in developing countries such as Mexico through the cluster approach being a factor of competitiveness;
- It presents a model to measure the functionality of the candy industry focusing on the cluster as a factor of competitiveness;
- It proposes a set of recommendations to promote the competitiveness of the candy industry, with possibility of making it extend to other entities in the country;
- To present a proposal for the operation of the candy cluster in San Luis Potosi, Mexico.

3. Research goals and hypothesis

Goals

- To conduct literature studies and references related to the subject of clusters.
- To analyze the operations conducted in the candy industry in Mexico (the San Luis Potosi example).
- To develop a model to measure the cluster's effect on competitiveness.

---

[1] Schwab, Klaus. (2003 y 2014). The Global Competitiveness Report 2003-2004 y 2013–2014. Full Data Edition. The World Economic Forum (WEF).
[2] ProMéxico (2013). Mexico is Opportunity. Ministry of Economy. P.p. 33-43.

- To propose activities aimed to increasing the competitiveness in the candy industry in San Luis Potosí and define recommendations for other states in Mexico.
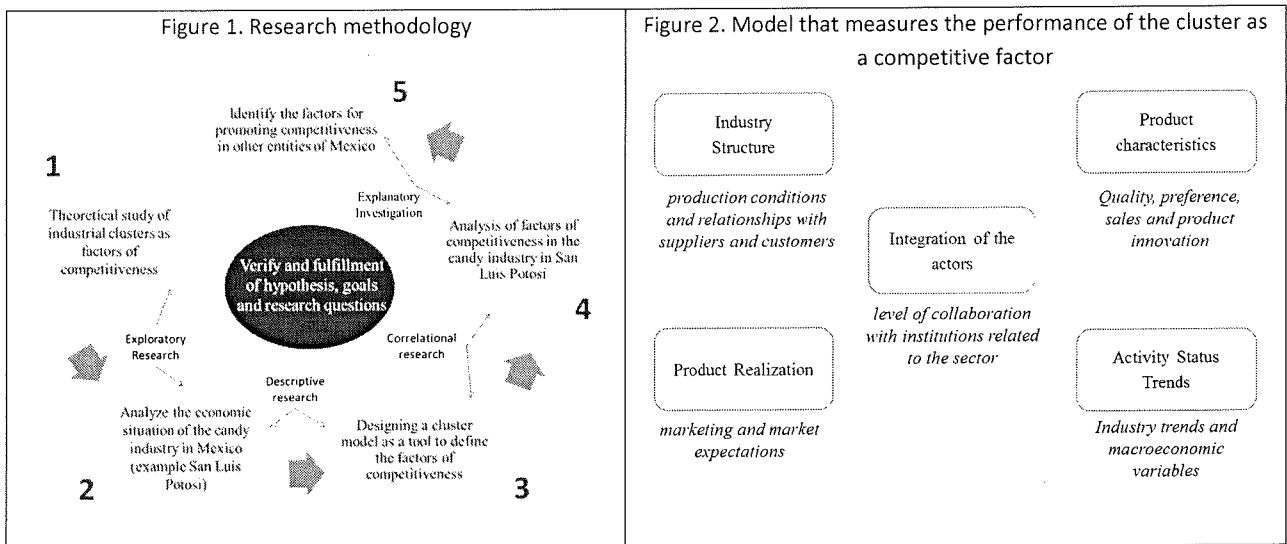
Hypothesis

- Research studies related to clusters and competitiveness factors have been developed mainly in foreign countries and therefore their results do not apply directly to the Mexican industry, particularly SMEs in Mexico.
- The determination of the role of the cluster as a factor of competitiveness in Mexico will be possible through research in the candy industry in Mexico.
- To define the influence of the cluster for competitiveness, a cluster model and its practical validation will be applied in the candy industry (particularly in SMEs) in San Luis Potosi.

4. Research Methodology

The research was conducted between the years 2010-2014, 104 companies from a total of 288 were considered that make up the candy industry, the size of the sample is representative at a confidence level of 90% and 5% error. The sample considers the producers, suppliers, distributors and institutions related to industry as government, universities, research centers, business organizations and financial institutions.

To carry out the thesis, research methodology followed four steps: an exploratory, descriptive, relational and finally an explanatory, which allowed to verify compliance with the objectives and goals (figure 1) [Chapter 1]. Also, to determine the influence of the cluster as a competitiveness factor, a model that groups together the factors of competitiveness in five components of competitiveness, was designed. (Figure 2) [Chapter 4].

Figure 1. Research methodology	Figure 2. Model that measures the performance of the cluster as a competitive factor

5. Main results

The conducted research, the application of the model, and the fieldwork in the candy industry in San Luis Potosi allowed us to verify our hypotheses and goals. Some of the results are:

- The research shows that cluster policy is implemented mainly in developed countries (90%)[3], however, it is a increasingly used practice in developing countries like Mexico (Goal 1, Hypothesis 1) [Chapter 2].

---

[3] European Commission. Report generated 08/12/2014 at http://ec.europa.eu/regional_policy/projects/

- In Mexico, one of the key sectors to promote competitiveness is the food industry, where candy production is highlighted and it is registered in few entities. San Luis Potosi is the 4th largest producer in the country , so it is a representative state for conducting a case study on competitiveness (Goal 2, Hypothesis 2) [Chapter 3].
- Taking into account development of the clusters theory and methodologies for measuring competitiveness, it was possible to design a model to determine the influence of the cluster as a competitive factor in countries like Mexico, where the presence of small and medium enterprises predominate (Goal 3, Hypothesis 3-4) [Chapter 4].
- With the results obtained, some recommendations were designed to promote competitiveness in the candy industry in San Luis Potosi (Goal 4, Hypothesis 3) [Chapter 5]:

1) Create the cluster of the Candy industry; 2) Create a fund to support the activities of the cluster; 3) Design a long-term strategic plan for the candy industry; 4) Create financial incentives to support innovation and exports for the candy industry; 5) Design mechanisms to encourage collaboration between businesses and universities; 6) Promote participation of companies in related events at industry; 7) Define standards of production and quality in the candy industry; 8) Implement a supplier development program, among other.

- Finally, an operating mechanism for the cluster was defined, as a strategy to ensure compliance with the defined actions to promote competitiveness in the candy industry in San Luis Potosi (Goal 3) [Chapter 5].

6. Recommendations and replicability

The research, through the cluster model as a factor of competitiveness, helped in identifying problems of functionality in the candy industry, which were taken into account to define a series of actions aimed at promoting competitiveness in this industry. The recommendations were organized according to factors of competitiveness and they were classified by type, priority level and execution period. Also, to give viability to each of the proposed actions, the most appropriate institutions were identified to support their implementation. (Chapter 5)

The actions designed for the candy industry in San Luis Potosi can be replicated in other candy production centers in Mexico, considering it is a concentrated activity in very few entities (6 of 32) and have similar operating characteristics (size of the enterprises, generated jobs, production volume, etc.).

7. Conclusions

This research presents the study of a cluster as a factor of competitiveness through the practical case of the candy industry in San Luis Potosi, as a representative sector in Mexico. The results show that the candy industry does not operate within the standards of a cluster, however it shows the level of performance in their different competitive factors (Chapter 4).
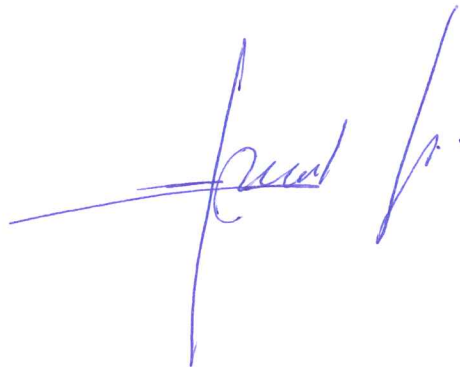
The results show that the factor of competitiveness with the lowest performance is the "collaborative work" of the companies with the actors involved in this industry: This is important because in this thesis (and like some authors recognize) the factor considered most important in the performance of a cluster is the collaborative work (Chapter 2).

The thesis shows us that, promoting competitiveness requires not only to identify the weaknesses in their competitiveness factors, but to propose some recommendations to overcome them, such as: to promote collaborative work between companies, training, promote business culture, transfer

technology, innovation practices and a series of business strategies to improve both the business environment and the competitiveness of enterprises (Chapter 5).

This thesis concludes that some of the basic problems that companies face in the candy industry are related to the incipient entrepreneurial culture of entrepreneurs and the predominance of small businesses, which limits them to transition to mass production and move into the national and international markets.

The expectations of candy industry consolidation are high considering that while 50 % of businesses show problems of profitability and operating costs, 87 % are willing to participate in activities and projects to improve competitiveness.