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**A METHODOLOGICAL PROPOSAL TO EVALUATE THE SYNERGIC
INDUSTRIAL CONCENTRATION**

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1. ABSTRACT.

This paper is about entrepreneurial competitiveness in traditional industries. *Traditional industries* refer to those in which knowledge is transferred from generation to generation. They also present specific characteristics as their activities are not new, but have been carried out from the past up to the present. Traditional industries usually consist of small and medium-sized enterprises, rarely large enterprises or transnationals, with a low level of investment in technology and in research and development activities.

This paper's purpose is to present a methodological process for the study and evaluation of the synergic geographical concentration of an industry in its own competitiveness.

2. INTRODUCTION

Geographical concentration is a very important factor, since it facilitates cooperation and interchange among research centres, among clients and suppliers from the region, and promotes research within the sector (Porter, 1998). On the other hand, the concentration of specific activities in a specific area attracts specialised knowledge.

The importance of geographical concentration and the evidence of the existence of industrial clusters have been widely studied along time. Saxenian (1996) analysed the organisation and the characteristics of the electronic firms in Silicon Valley, Glasmeier (1991) Switch watches, Faulkner and Anderson (1987) the cinematographic industry in Hollywood, Scott (1991) the electronic-aero spatial industry in South California, Brusco (1982) studied several sectors in the North of Italy.

3. PRINCIPLES

Among contemporary authors, one could say that Porter (1980, 1985, 1990, 1998) is the one that has paid more attention to the effects and influence that firms' external aspects and industries have on entrepreneurial competitiveness.

Porter (1985) stresses the importance of acquiring *competitive advantage* in order to overcome successfully the changing conditions of the environment. The author raises the question of how competitive advantages should be acquired and maintained. Porter (1990) spells out the role that a country's environment, institutions, and economic policies play in the competitive success of some industrial sectors. He introduces a model of research, widely used subsequently by the scientific community: *the diamond*. From this point on, he begins to focus on what he calls *cluster* (1998).

Porter (1990) and Krugman (1991a, 1991b) have developed the essence of the contemporary literature about *clusters*. They are the first ones to consider geographical concentration as the key when studying markets and competitiveness, although many authors had already written about this before (Marshall 1890, Brusco 1982).

Porter (1998) defines *cluster* as the geographical concentration of related firms and institutions - this includes competitors, suppliers, clients and associations - that combine competitive and cooperative behaviours.

According to Krugman (1991a, 1991b), there are three regional factors that influence entrepreneurial performance:

- That firms' basic resources and capabilities, in order to be competitive at the international and interregional level, can be found in the region.
- That other regional clusters develop activities that can be shared by firms belonging to the cluster.
- That firms' strategic options can be influenced by information transfer and by the combination of competence and cooperation that can be found in regional clusters.

Baptista (1998), too, thinks geographical concentration is a very important factor. Concentration facilitates interchange and cooperation among research centres, clients and suppliers from the region, and promotes research within the sector. On the other hand, the concentration of specific activities in a specific area attracts specialised knowledge.

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Krugman's work (1991a, 1991b) focuses on the interaction between market structure and economic geography. According to this author, "geographic concentration is a fact that most evidences economic activity" (Krugman 1991a). Krugman's ideas reconsider Marshall's (1890) statements. According to Marshall, there are three reasons for industrial concentration:

- *Labour force*; the concentration of an important number of firms belonging to the same industry in the same area gathers workers with the same skills and knowledge. This situation benefits both sides, workers and firms, facilitating the occupation of vacant jobs, and minimizing the effects of the economic-productive cycles. Krugman (1991a, 1991b) demonstrated that this situation is very positive, independently of the way in which this "labour force" is organised (Baptista, 1998).

- *Intermediate factors*; a located industry can include a greater number of specialised local suppliers, both regarding specific goods as well as services, which results in a greater variety at a lower cost.
- *Technological externalities*; if the information about new technologies, products and processes flows easily in a local area, the firms located in that industrial pole benefit themselves from the positive externalities. This would be more difficult if the firm was not located in that specific area.

We agree the externalities produced by the geographical concentration of firms appear when the cluster's benefits (*cluster* Porter, 1990 or *district* Marshall, 1890) increase proportionately to the number of firms located in the region.

Besides the advantages of geographical proximity, such as reduction of good and transport costs (Marshall, 1890) and concentration of qualified workers and a variety of suppliers (Krugman, 1991), some of the most important advantages are produced because the members are integrated in a strong social net.

Porter (1998) states many advantages of a cluster depend on physical proximity, on personal contacts, on the relationships within the cluster, and on the accessible information.

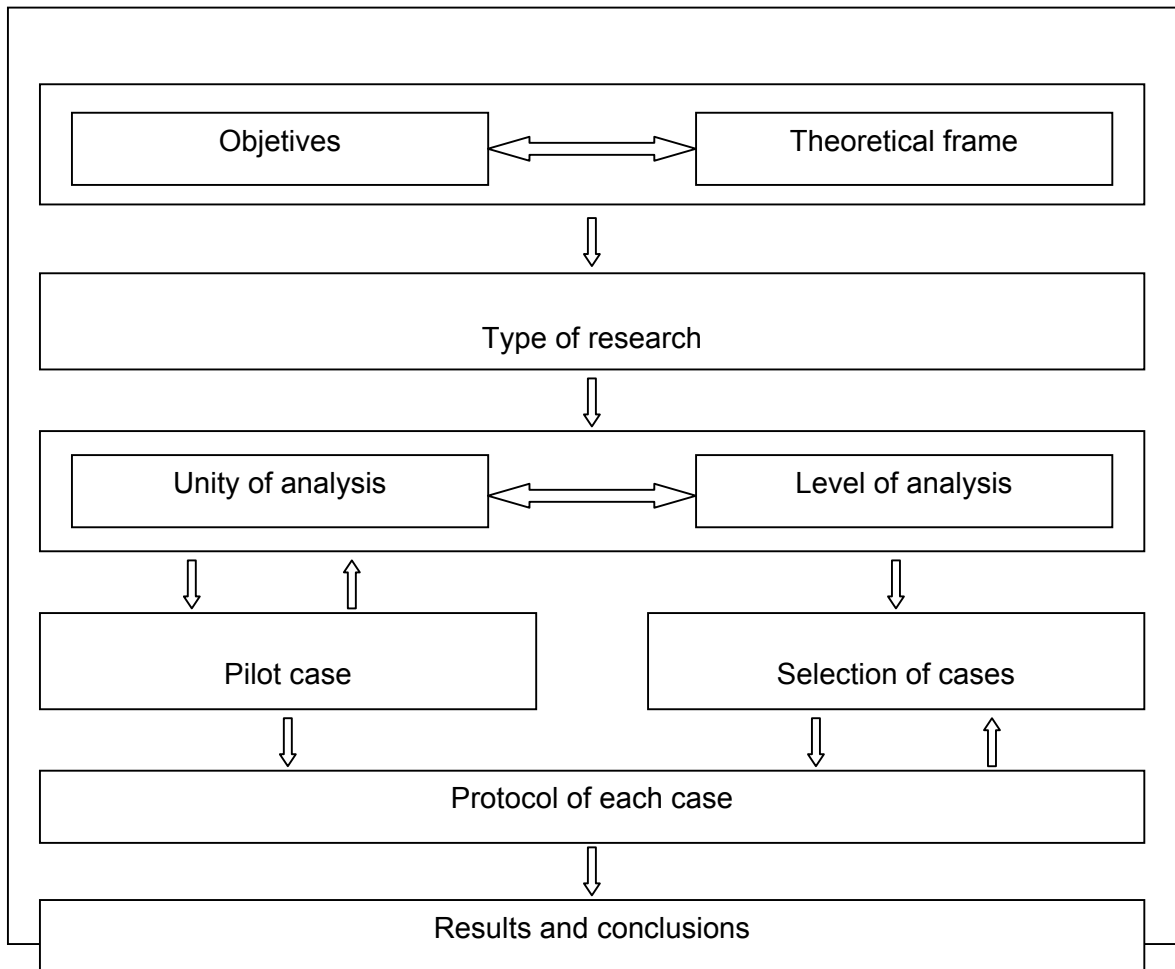
Proximity and the informal social net facilitates the transfer of specific; technological knowledge (Aufdretsch y Feldman, 1996, Baptista y Swan, 1998), knowledge about the clients' preferences (Von Hippel, 1988), and about the processes (Helper, 1990, Saxennian, 1996).

4. METHODOLOGY

Following Kaplan (1986), it is difficult to imagine that firms management theories can be verified, if the proof is not carried out within the organizative context. These proofs are not only useful when describing the existence or not of procedures, but also to deduce and to contrast how and why certain practices should be implemented.

When someone intends to *generate a theory*, starting out from a theoretical frame and the key questions *how* geographical concentration is *created* and *how it influences* an industry' competitiveness, it is better to develop an explicative study of cases. Several cases will be studied following Rouse and Daellenbach, (1999) as this research will follow the model proposed by Pérez (Figure 1).

Figure 1.- Stages in the study of cases



Source: Pérez, (1998)

The method used in this research, **in-depth interviews**, is classified as the obtaining of direct data. The type of the interview used is called *structured interview with open answers* (King, 1994). This technique combines the advantages of the use of close questionnaires with the advantages of a qualitative research interview.

4.1. APPROACH

This research's purpose will be the determination of how exogenous factors influence on the competitive level of firms belonging to an industry, and up to which point they affect firms' performance. This will be applied to a concrete industry in order to contrast it.

⇒ Firms' exogenous aspects are related to the industrial sector's structure, concretely the *impact of the sector's geographical concentration* on its own

competitiveness, for which the process of the creation, growing and achievement of competitiveness' factors will be analysed; that is to say, agglomeration tendencies, and how public and private institutions and the network of relations inside the cluster affect its competitiveness.

5. SINERGIC INDUSTRIAL CONCENTRATION ANALYSIS

5.1. BACKGROUND.

Murray (1999) used as an assessment tool, for the impact of geographic concentration, a questionnaire applied, specifically, to the plastic sector located in the North of Massachusetts. Based on his first work, it has been developed an specific tool that can be applied to any industry in order to evaluate the sinergic industry concentration. In this case it was applied to the home furniture industry of the Valencian Community.

5.2. ASSESSMENT TOOL FOR THE IMPACT OF GEOGRAPHIC CONCENTRATION

The questionnaire has two main parts. The first one refers to the firm's general data and main characteristics (if it is a family business, its development, number of employees, etc). The second part deals with structural issues related to the synergic industrial concentration.

I. FIRM'S DATA

Name and address

Contact person

Activity frame

Year of constitution

Firm's history:

(Important dates, new staff, functions and departments, strategies, objectives and priorities, products, markets, production technologies, investors, plants, etc).

Number of employees: (By area or department).

Family business:

Members of the family working in the firm:

Members of the family responsible for the firm's management:

Members of the family in the board of directors:

Will it continue being a family business?

II. STRUCTURAL DATA

1.- Was your firm created in this region?

A-YES

B-NO

If the answer is yes, was your firm part of a different firm, a spin-off?

YES

NO

Comments:

2.- Did this area's experience and tradition influence its location?

A- A LOT

B- A LITTLE

C-NO

3.- Does the concentration of firms belonging to the same sector or related sectors influence your firm's location?

A- A LOT

B- A LITTLE

C-NO

4.- Which of the following factors have influenced on the location of your firm in this geographical area?

A LOT LITTLE NO

A- The existence of clients in this area

B- The existence of suppliers in this area

C- The existence of subcontractors in this area

D- Sharing knowledge with the other firms from this area

E- Availability of specialized labour force

F- Institutional support

G- Easy credit in the area

H- Workers' experience and training

I- Infrastructures, access (high way, train, port).

J- Labour costs (labour force, taxes, local taxes, etc).

Comments:

5.- Where are your clients, in percentages?

75-100 / 50-74 / 25-49 / 1-24/ 0

A- In the area of Valencia and its surroundings.

B- In the Valencian Community.

C- Other Spanish cities.

D- Europe (specify).

E- Other continents (specify).

6.- Where are your suppliers, in percentages?

75-100 / 50-74 / 25-49 / 1-24/ 0

A- In the area of Valencia and its surroundings.

B- In the Valencian Community.

C- Other Spanish cities.

D- Europe (specify).

E- Other continents (specify).

7.- Identify your three main clients:

1.

2.

3.

Comments:

8.- Identify your three main competitors and their location:

1.

2.

3.

9.- Have you had any cooperation relation with other firms from the area?

A- Usually.

B- Seldom.

C- Never.

Comments:

10.- How is your relationship with the other firms?

A- Very fluent (staff, information exchanges, etc).

B- Fluent (we speak once in a while).

C- Sporadique.

D- Non-existent.

11.- Which kind of activities are carried out by the group of firms in the area ?

A- Innovation.

B- Research.

C- Commercial.

D- Training.

E- Other (specify).

12.- From your point of view, which benefits does your firm obtain due to its location? Why?

13.- Do you think the located firms act as a group? Do you think they have advantages that the other firms that are not located here cannot obtain? Why?

6.- CONCLUSIONS.

This paper has contributed to develop a generic assessment tool of the synergic industrial concentration. This tool could be applied to any industry and also identifies the established relations among the firms and institutions involved, as well as their quality and performance as a group.

This tool complements the above mentioned methodology, that is to say, a research developed in a qualitative way, through the study of cases and deep-in interviews.

It will not be used in quantitative researches, as its validity has not been proven.

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