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A CONCEPTUAL FRAMEWORK FOR THE INDUSTRIAL DISTRICT ANALYSIS: FROM KNOWLEDGE TO RESOURCES

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ABSTRACT

Traditional literature on Industrial Districts has remarked the *social capital* as a core key in the development process of a sustainable territorial competitive advantage. In that concept authors are allocated part of the externalities without being underpined by an integrating conceptual framework. Recent resource-base view and knowledge management theory, as well as intellectual capital approach, can all be use as a conceptual framework to allocate all the industrial district's special features in a more comprehensive and connected *arena*. We establish a conceptual framework by integrating different approaches and adapt all of them to specific industrial district case. Moreover, we adapt the SECI knowledge management model to the cluster case as a useful way to understand the tacit knowledge dissemination that occurs in the industrial district.

KEY WORDS
Resource-based view, Knowledge, Industrial District, Competitiveness

1. INTRODUCTION

Nowadays, there is no doubt about the significance of industrial districts[1] as the main axis in the competitive development of firms and environments. The works of Piore and Sabel (1984), Pyke et al. (1990), among others, show that industrial districts are the key in certain sectors and economies.

The works of Bellandi (1987), Sforzi (1987), Becattini (1989), Staber (1996), Cillo and Troilo (2002) and Alberti (2003) have raised the question about when a group of specialised firms located in a specific environment consists of an industrial district. However, fewer works try to offer an integrated theoretical frame to explain an industrial district's specific characteristics. The most widely accepted explicative model is Porter's diamond (1990); however, even though it is effective and clarifying, it lacks a consistent theoretical body.

Moreover, regarding the evaluation of the relationship between the environment's capabilities and the firms' strategies, *the literature about industrial districts does not offer an analytical frame that takes into account firms' sustainable competitive advantage in a regional cluster* (Lawson and Lorenz, 1999, pp. 306, Enright, 1998: 316, among others). However, there are works that relate strategists' recent contributions to districts' competitive factors, such as the works of Foss (1996), Lawson (1999), Lawson and Lorenz (1999), Maskell and Malmberg (1999), which relate the theory of firms' resources and capabilities to the unit of analysis of the environment. Therefore, it is possible to integrate entrepreneurial theories, concretely the theory of resources and capabilities, the theory of knowledge, and about intellectual capital, in order to establish an integrated theoretical frame to explain the specific elements that characterise districts' competitiveness.

[1] The industrial district model differs from the cluster model, basically, in two factors. Firstly, the cluster does not *per se* make explicit the social relations caused by cultural factors. Secondly, the industrial district model seeks competitiveness in collective performances, while Porter's cluster model defends that competitiveness is acquired in a cluster of firms when each firm, individually, adopts a competitive strategy which is coherent with the group's competence, strengthening, this way, competitiveness in the whole environment. To sum up, essential differentiation factors are social relations (which are present at the industrial district model) and firms' individual strategies (in Porter's model). Although we use the term of industrial district, with the shown differences, we include clusters in our analysis.

Thus, this paper aims at the integration of all the elements that take place in an industrial district, those resources of the environment that explain and foster the located firms' competitiveness, taking into account entrepreneurial theories to establish an integrated conceptual frame of the environment's competitiveness. That is to say, the application of company theories to explain cluster or district. With this purpose, we will integrate and apply the main company theories of the organizational economics approach to the concrete case of industrial districts, integrating contributions from the *theory of resources and capabilities and the theory of knowledge.*

This paper will be organised as follows. The first section will be about intangibles. The following section will describe, in a logical order, theories that complement each other. After, we will offer a global view about clusters and industrial districts, and, then, we will apply the integrated theoretical approach to the specific case of industrial districts. Finally, we will summarize the main conclusions.

2. QUALITATIVE ELEMENTS IN THE DISTRICT: FROM CAPABILITY TO INTANGIBLE.

Many economic approaches and researches study the environments' development and competitiveness, trying to analyse the causes and explanations of this production model, alternative to the traditional mass production model. According to Baptista (1998: 14-15), the main disciplines that approach the concept of cluster are Regional and Urban Economics, Economic Geography, History, and the development of the historical tradition and traditional Economics.

Dahl (2001) expounds a similar classification, and the main economic approaches that analyse clusters:

- **Sectorial, regional and national systems of innovation (Nelson, Winter, Lundvall, among others).**

- **Industrial and Economic Geography, especially the neo-marshallian approach regarding industrial districts (Amin, Scout, Storper, Piore, Sabel, Becattini, Brusco, among others).**
- **Traditional Economics, the new theories of economic growth, and international commerce (Marshall, Lösch, Krugman, among others).**
- **Organisational economics, transaction costs, firm theory, and theory of resources and capabilities (Penrose, Foss, Maskell, Malmberg, Enright, among others).**

Nonetheless, even though the concept is clear, there are different registers to refer to the idea of cluster. In this sense, when the concept of industrial concentration or agglomeration is used, there are several terms to refer to it, such as *agglomeration, cluster, new industrial areas, embeddedness, milieux, and complex.* The term district will be included in the *model of social networks,* widely developed by sociology. Interactions among firms belonging to this complex are based on strong interpersonal relations that go beyond firms' limits. Both trust and informal contacts build interaction (Gordon and McCann, 2000). It should be taken into account that the industrial district is a specific case of clusters or agglomerations in which social interactions (social capital) reach their maximum expression.

None of the above mentioned models makes explicit the presence of institutions, so needed to consolidate agglomeration areas. Industrial districts should be included in the model of social networks. In accordance with Signorini (2000), a district behaves as a single entity, where a large enterprise's planning structure and ordinary controls lead to a market structure, with a particular nature. The *intelligent swarm* (like bees) of firms belonging to a district responds to the price system and to all the items of information produced by firms' interaction. At first, the individual response mechanisms may seem very simple and anarchic, but produce efficient, flexible, complex, and highly organised collective performances (Signorini, 2000).

As it has been shown, knowledge or intangible assets created in the area are present in several ways, such as in *interpersonal relations and in trust.* Furthermore, literature about industrial districts is rather qualitative than quantitative [Becattini (1987);

Brusco (1989); Pike et al. (1991); Enright (1999)]. According to Signorini (1994 a, pp. 31), who tries to explain this fact, ***the reason for this is that this theory is based on elements that are difficult to quantify , such as the particularities and values of the local culture, or the quality of the information flows.***

As we have seen, these ***elements that are difficult to quantify*** **are intangible. They partly explain the reason for the existence or non-existence of competitiveness in industrial districts, because not every dstrict is competitive, but must be provided with those intangibles that generate synergies among the firms located in it. And this is the main point this paper tries to highlight: how the firms located in the district take advantage of the environment's capabilities or intangibles. When we state a cluster or district is competitive, we are saying that the firms located in it are competitive for several reasons and circumstances, and this is due partly to the fact that these firms take advantage and benefit from the intangibles, capabilities and factors generated by the environment. That is to say, how a cluster contributes to the competitive advantage of the firms located in it, and to these firms' strategies.**

Moreover, these intangibles and qualitative elements or capabilities could also receive the name of knowledge, which can be expressed through different ideas – explicitly, such as knowledge and information flows (Scout, 1998), tacit knowledge, learning effects, specific vocabulary, transaction specific knowledge (Harrison, 1994); or implicitly, such as ideas and information (Marshall, 1890) or experience in the sector (Porter, 1991).

These assets, internal to the environment and external to firms, offer several benefits derived from the existence of a set of externalities or external economies (Storper and Scout, 1989; Storper, 1992).

According to Scott (1998, pp.387), industrial agglomeration produces three kinds of benefits:

- **It cuts inter-industrial transaction costs**
- **It speeds up knowledge and information flows in the industrial system**

- **It strengthens transaction models based on social solidarity (intensifying "Marshall's environment"[2] or fostering cooperation among, for example, producers).**

In this sense, Harrison (1994) points out agglomeration facilitates the social construction of cultural and political located assets, such as mutual trust, tacit knowledge, learning effects, specific vocabulary, transaction specific knowledge , etc. In the same line, Foss (1996) highlights the fact that the firms belonging to an industrial district share resources and capabilities of a higher order. These resources and capabilities are not exclusive for a single firm, but are available to all of them, generating returns this way.

Following Molina and Martínez (2001) there are three kinds of resources for firms: internal resources only controlled by firms; external resources (only accessible in the market) and available resources (*addressable resources)* – these last ones partly owned and controlled by a firm (placed in the firm's ambiguous borderline), according to Raffa and Rollo's classification (1998). Therefore, we could include this knowledge related to the district's internal assets into the last category.

All these assets, mainly intangible, were already described in the literature about industrial districts, within economic geography and the neomarshallian approach to industrial districts. Beginning with Becattini's (1979) definition of district, later on reviewed by (Brusco, 1986; Bellandi, 1989; Becattini, 1990 and 1997), we can identify the district's three basic elements:

- *Division of labour factor*, which implies a higher productivity and flexibility when firms specialised in one or several steps in the production process (specialisation by phases).

- *Milieu* (Maillat, 1989), which can also be divided into two aspects: *culture* (attitude, knowledge, traditional skills, information channels, labour mobility, high social recognition of risk and profitability, a combination of trust and competence),

[2] *Marshallian atmosphere*

and *infrastructure* (site availability, communication, community services, services for firms, local banking).

- The *net*, which consists of links that imply the industrial district's power in the market (consolidated commercial contacts, district's extemal image as a whole, etc).

2.2. Resources and capabilities

In the last years, the theory of Resources and Capabilities has acquired a greater significance within organisational economics. It argues that a firm's performance does not depend so much on the sector or on the firm's internal factors, but on resources and capabilities – which are the main sources of the firm's sustainable competitive advantage (Grant, 1996; Cuervo, 1995). In this sense, a firm's resources and capabilities become a solid base for the firm's competitive advantage (Barney, 1991; Peteraf, 1993; Teece et al., 1997, among others).

Resources are the stock of factors available to a firm, while capabilities refer to the ability to manage a set of resources (Grant, 1996). Furthermore, (pp. 165) *the interest is not so much in the capabilities per se, but in the capabilities in relation to the ones of the other firms, that is to say: what can the firm do better than its competitors?*

Grant (1996, pp. 159-164) classifies resources as tangible, intangible, and human; although the difference between tangible and intangible resources is widely accepted (Wernerfelt, 1984; Barney, 1991; Hall, 1992; Amit and Schoemaker, 1993, among others).

Even though terms such as *competence* (Burgelman and Rosembloom, 1989; Prahalad and Hamel, 1990) and *capabilities* (Teece, Pisano and Shuen, 1992; Grant, 1991; Teece et al. 1994) are not always used in the same sense, they share enough "familiar similarities" in a significant number of recent contributions (Lawson, 1999, pp. 152). From the point of view of the *essential competences*, learning is the key. As Prahalad and Hamel say (1990, pp. 82) "essential competences are the collective learning in the organisation, especially those related to the way of coordinating the different production techniques and integrating the several technological trends". Nonetheless,

the tangible connexion between identified essential competences and end products is what we denominate essential products: the physical embodiment of one or more essential competences…the essential products are the components or subcomponents that really contribute to the end products' value" (Prahalad and Hamel, 1991, pp. 9-10).

2.3. From capabilities to knowledge

Collective learning, as base of essential competences, is related to knowledge. Knowledge is, in fact, considered as one of the main valuable factors in a firm (Wernerfelt, 1984; Kanter, 1985; Barney, 1986; Peteraf, 1993; Grant, 1996; Sánchez et al., 2000, among others) and as a basic production resource in the present economy, in which value is created through *productivity and innovation* (Drucker, 1993, pp.8). Nonaka (1991; 1994) and Nonaka and Takuchi's (1995) contributions strengthen this last idea. They understand that the creation of knowledge is the key in the innovation process.

Changes in international economics have, gradually, shifted the basis of industrial competitiveness, from the static competence by prices towards the dynamic improvement. Therefore, this benefits firms that are able to create *knowledge* more quickly than its competitors (Porter, 1990; Patchell, 1993).

There are basically two kinds of knowledge: explicit and tacit (Nonaka and Takeuchi, 1995; Bueno, 1998; Osterloh and Frey, 2000; Subbanaraismha, 2001). Explicit knowledge is understood as that one that can be expressed through words, numbers and symbols and that is easily shared and transferred. It mainly consists of technical knowledge, and can be considered as a public intermediate good. On the other hand, tacit knowledge is difficult to articulate or codify and consists of attitudes and capabilities. It cannot be easily transferred. According Nonaka and Takeuchi (1995, pp.8) tacit knowledge can also be divided into two dimensions: a first technical component - *know-how* – and a second *cognitive* component – mental models and reality perception leaks.

Zack (1999, pp. 128-30) states knowledge is a strategic resource for three reasons: firstly, the ownership of higher intellectual resources allows the organisation to understand how traditional resources should be exploited and developed (although they are not the only ones) better than competitors; secondly, because the creation of value through synergies between recent knowledge and the already existing one is possible; finally, the acquisition of tacit knowledge though experience and its inclusion in the organizative routines takes time; therefore, competitors should speed up their learning processes through large amounts of investment to achieve the same level (Marco and Zaragoza, 2002, pp. 3-4).

***Nonaka's model*, integrated by Nonaka (1991 and 1994), Nonaka and Takeuchi (1995) and Nonaka and Konno (1998) stands out among the research models about knowledge management. According to Nonaka (1995, pp. 6-11), knowledge that comes externally to the organisation is disseminated, producing innovations in the conversion process of tacit knowledge into explicit and knowledge creation spin-offs in the organisations. Furthermore, knowledge needs a shared space or *ba*, to be used as a platform, in order to be generated (Nonaka and Kono, 1998, pp. 40).**

The importance of knowledge management is based on the fact that knowledge consists of intangibles and results in new intangible assets which comprise an organisation's Intellectual Capital.

3. APPLICATION OF AN INTEGRATED THEORETICAL FRAME TO THE CLUSTER

Therefore, this paper's goal consists of integrating the different theories of researches about individual firms in order to apply them to two different types of organisation: on the one hand, the firms belonging to an industrial district. These firms have additional resources and capabilities – necessary to understand their own - due to the fact they are located in a specific environment. On the other hand, the cluster, which can be understood as an informal organisation that consists of related firms and institutions.

3.1. Environmental resources and capabilities

The existing capabilities and knowledge in a cluster have, traditionally, been considered as *social capital*, according to Brusco's definition (1986), because it is essential to make explicit the district's external economies' nature and the market's imperfections linked to them, in order to prevent "*the consideration of external economies or of the marshallian atmosphere as a garbage can where we can throw everything that cannot be explained or that we do not know, or the use of this category to academically disguise a research typically carried out by a mediocre Chamber of Commerce*" (Brusco, 1986, adapted by Soler and Hernandez, 2002, pp.3). Bellandi (1989) and Becattini (1990) indirectly approach districts' assets and competences (contrary to those of individual firms), and use different concepts such as *industrial atmosphere* that comprises firms' networks, rules, mutual understanding, information, etc. Furthermore, according to Camagni (1991) and Crevoisier and Maillat (1991), among others, the local environment or *milieu* is the result of collective interactions and learning, which facilitates innovation. In this sense, both *industrial atmosphere* and *milieu* will *per se* conform the cluster's intrinsic capabilities or strategic assets. From the field of territorial approaches, Storper (1992) refers to non-tradable interdependencies or externalities.

Moreover, there is an explicit consensus regarding the fact that some resources and capabilities are internal to the environment and external to firms (Harrison, 1994; Foss, 1996; Enright, 1998; Lawson, 1999, pp. 158; Maskell and Malmberg 1999, pp. 173). In this sense, Harrison (1994) stresses that agglomeration facilitates the social construction of political-and-cultural localized assets, such as mutual trust, tacit knowledge, learning effects, specific vocabulary, transaction specific knowledge, etc.

Regarding the researches about geographical distribution of the economic activity, Maskell and Malmberg (1999, pp. 173) point out that it is basically assumed that firms locate and build their competitiveness in interaction with *located capabilities*, which are mainly based on:

- **the region's infrastructure and environment**
- **natural resources available in the region**

- **institutional endowment in the region**
- **knowledge and capabilities available in the region**

The specific resources in the region will result in a sustainable competitive advantage if they are valuable, scarce, and difficult to imitate or to substitute (Enright, 1998: 322). We could also include social complexity (Brusco, 1982; Piore & Sabel, 1984, among others) within these resources, and regarding localized industries, as a main asset in the district. In the same line, Keeble & Wilkinson (1999, pp. 299) point out that the ability to create and keep effective social relationships is a key competence.

Table III shows what traditionally has been considered as the district's own elements - the district's resources and capabilities.

Table III Industrial district's resources and capabilities

WORK DIVISION ***(Becattini, 1979; Brusco, 1986; Bellandi, 1989)***

- **Value chains setting (division and specialisation of labour factor)**

MILIEU (Maillat, 1989)

- **Handicraft tradition in the area.**
- **Tacit knowledge (mutual understandings, same language and culture, specific vocabulary).**
- **Reliance upon social relationships (Becattini, 1979; Brusco, 1996).**
- **Tacit and explicit information channels.**
- **Labour mobility.**
- **Starting –up of new firms by former staff.**
- **Relationships between staff, manufacturers, suppliers and dealers.**
- **Infrastructure (local banking, specialised services, etc.)**
- **Natural resources.**
- **Institutional endowment.**
- **Social recognition of risk and profitability.**
- **Competence – co-operation.**

NETWORK ***(Becattini, 1979; Brusco, 1986; Bellandi, 1989)***

- **Consolidated commercial contacts.**
- **External image as a whole.**
- **Lobby of political pressure.**
- **Products' reputation as a whole.**

Source: adapted from the authors

In spite of the lack of an appropriated theoretical framework, it is obvious that there is a relationship between clusters or industrial districts and the strategies of the firms located in them. In this sense, Enright (1998, pp. 323-24) suggests that the main current theoretical frameworks about strategy can be related to clusters. The theory of resources and capabilities can be extensive to clusters as there is an additional category of resources which are internal to the region but external to any firm in the region. There are space asymmetries for a certain type of resources: natural resources, skilled labour force, specialised inputs, experience in the industry, etc. Likewise, there are also several links between Porter´s conceptual framework (1985; 1991) and regional clusters. Localisation will enable firms to interrelate activities, the internal ones and the ones related to suppliers and clients, in a way that they will increase the value for clients or will lower costs.

Therefore, the basic contribution of the above mentioned ideas is that a region's local resources and capabilities will significantly influence on the resources and capabilities of the firms belonging to the cluster. In other words, the pattern of the activities of the firms belonging to the cluster will be conditioned by the interrelation of the cluster's capabilities and the institutions' endowment in the area. Thereby, as Lawson (1999, pp. 163) states *the resources and capabilities of an individual firm cannot be interpreted or understood without including the region's or the cluster's own competences - essential to understand the firm's activity.*

As a consequence, the resources and capabilities of a firm located in an industrial district or cluster will consist of, besides its own capabilities, the influence of the region's capabilities on that firm and; therefore, the way in which the firm benefits from those capabilities.

3.2 Knowledge in the cluster. The SECI model

Collective interactions and learning, as result of the shared resources and capabilities in the area and based on effective social relationships, will imply the creation of knowledge. According to Maillat (1995), *the region or environment is not a simple*

container of elements, but a means (milieu) for collective learning through an intense interaction among a great variety of agents.

Therefore, there is a need for the establishment of a theoretical framework to analyse the knowledge generated in a cluster (Krugman, 1993; Spender, 1998), as knowledge is a strategic asset for firms' competence and learning a key process (Maskell y Malmberg, 1999, pp. 179).

Nonaka & Konno (1998, 40-41) define *ba* as a shared space used to acquire or to create knowledge. *Ba* collects the knowledge applied to an area and integrates it. The SECI model (Nonaka and Takeuchi, 1995, 61-70) states that knowledge creation is a spin-off process of interactions between tacit and explicit knowledge. The combination of these two knowledge categories enables the conceptualisation of four ways of knowledge conversion: socialisation (conversion of tacit knowledge into tacit knowledge), externalisation (of tacit knowledge into explicit knowledge), combination (of explicit knowledge into explicit knowledge), and internalisation (of explicit knowledge into tacit).

The term socialisation emphasises that joint or common activities (like living in the same environment) – and not verbal or written instructions – enable the interchange of tacit knowledge. Socialisation comprises the comprehension of knowledge through physical proximity, using the *original ba* to produce face-to-face interactions among the members in the organisation. Externalisation implies that tacit knowledge can be comprehensible and understood by others. In the combination phase explicit knowledge becomes more complex. Knowledge spreads among the members in the organisation, through maps, reports, market researches and data, etc. In the phase of internalisation, the members acquire knowledge through learning-by-doing, training, and practical exercises (1998, pp. 42-45).

How is knowledge generated in the cluster, and how should it be managed?

According to the SECI model, physical proximity ("…like living in the same environment"), face-to-face interactions, and the performance of joint activities in the *original ba* framework is exactly what takes place in an industrial district. A district's

added value resides in the community of people that conform it (Crece, 1996; Russo, 1997; Paniccia, 1998; Harrison, 1991). As Uzzi (1996) points out, social linkages are related to high quality information and tacit knowledge interchanges. Moreover, facts such as sharing common knowledge and contracts, experiences that promote trust, trust that fosters relations, etc., partly limit partners' opportunist behaviours (Lorenz, 1992; Dei Ottati, 1994; Foss and Koch, 1995; Lazerson, 1995). That is to say, there is a social mechanism that controls the relations in the district. The literature about industrial districts distinguishes three ways to transfer tacit knowledge: personal relations (Brusco, 1990), creation of new firms (Bramante and Senn, 1990) and mobility of human resources among the firms in the district (Tomlinson, 1999; Brenner, 2000).

The industrial district, based on a model of effective social relationships, represents *per se the original ba* of the mentioned model. The whole process of knowledge creation takes place among the members in the district. Therefore, the individual firms conforming the district play the role of individuals in the SECI model.

Knowledge acquirement in the cluster implies a learning process among organisations. In this sense, tacit knowledge, difficult to transfer without face-to-face contacts, becomes the most important source of local or regional competitive advantage (Maskell and Malmberg, 1999; Foss, 1996; pp. 13; Storper, 1995; pp. 198; Markusen, 1996, among others).

Keeble and Wilkinson's ideas (1999, pp.298) about the main mechanism of knowledge and learning transfer includes interrelations between suppliers, clients and suppliers, formal and informal collaboration between firms in a specific sector, mobility of staff, and spin-off processes from companies or research entities.

There are three basic ideas in the organisational learning process. Firstly, learning depends on shared knowledge. The ability to transfer knowledge will depend on a common language and also on a shared-knowledge base among the firms belonging to the cluster. In this process, a common language and culture is crucial in order to transform information into knowledge. Secondly, learning depends on the

combination of several kinds of knowledge. Finally, the problem of organisational inertia (Lawson y Lorenz, 1999, pp. 307).

Maskell and Malmberg (1999, pp.180) establish that the learning process in clusters have two implications. On the one hand, history matters because firms develop routines and procedures along time suitable for the incremental character of the learning process and, at the same time, it establishes learning trajectories. On the other hand, proximity is important because the interactive character of the learning process shows geographical space as a needed dimension. Social and cultural proximity are also needed to communicate tacit knowledge, which will usually require a high level of mutual trust and understanding supported by common values and knowledge.

Furthermore, knowledge generated in the cluster will easily be shared by the participant agents, but will hardly be extrapolated or imitated in other contexts. In this sense, Porter and Sölvell (1998, pp.448) distinguish between knowledge with a high or low international mobility. The essential characteristic of the knowledge in social capital due to local circumstances, unique relations and accumulated routines, all of them in a local cluster, is it's little international mobility (Porter and Sölvell, 1998, pp.447).

Dierickx and Cool (1989) identify three important factors to prevent imitation: asset mass efficiency, time compression dis-economies and inter-connectedness of assets stocks. Regarding anti-imitation factors, and according to Maskell and Malmberg (1999, pp.176-77), the regions with a large accumulation of R+D, knowledge based on experiences, infrastructure, and specialized labour force, are in a more advantaged position to innovate than other regions. Furthermore, all the region's capabilities take time to develop, and that time will tend to disseminate the imitation process (Putnam, 1993). Finally, the assets' inter-connexion takes place in a complex network of links in the area's institutions. A rival may acquire vital components, but the imitation of a complex pattern of internal coordination and learning, and other similar systems with a tacit nature, will be difficult to achieve (Prahalad and Hamel, 1990).

In clusters, tacit knowledge could be internal to the area instead of to the firm (Enright, 1998, pp.326). Utterback (1974) points out that the informal and oral sources of information provide with most of the key communications about market needs and technological chances leading to innovation. At the local level, where firms share common values, *background*, and a deep perception of technical and commercial problems, there is an exchange of tacit knowledge (Nelson, 1987). This exchanging skill represents a competitive advantage in the districts. We could sum up the general idea that the own *industrial district = original ba.*

4.- CONCLUSIONS

This paper's objective was to integrate all the elements in an industrial district, those resources that help firms' competitiveness with an integrating theoretical frame that explains the environment's competitive elements that influence on firms. Therefore, we will integrate and implement the main theoretical approaches nowadays to the concrete case of industrial districts: theory of resources and capabilities and theory of knowledge.

We have seen how everything that is at present included in the theory of resources and capabilities represents or comprehends the elements that take place in an industrial district, and that conform its social capital and essential capabilities. Furthermore, the Theory of Knowledge, and concretely the SECI model, can be transferred to the industrial district, in order to understand the generation and management of tacit knowledge as a basic source of districts' competitive advantages.

In conclusion, the district's strategic assets sustain the district's competitiveness and improve, at least in part, the intangibles of the firms located there. Therefore, it's hard to understand the resources and capabilities of the firms agglomerated in the area without relating them to the industrial district's own resources.

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