TESIS DOCTORAL

ABSORPTIVE CAPACITY, RELATIONAL LEARNING AND ORGANIZATIONAL CULTURE IN A KNOWLEDGE MANAGEMENT CONTEXT: THREE ESSAYS ON THEIR INFLUENCES IN THE INNOVATION OUTCOMES.

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"*In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge*"

Ikujiro Nonaka.

"*An investment in knowledge pays the best return*"

Benjamin Franklin.

"*Reach excellence and share it*".

San Ignacio de Loyola.

CHAPTER 1

INTRODUCTION, OBJECTIVES AND SAMPLE OVERVIEW

CHAPTER 1: INTRODUCTION, OBJECTIVES AND SAMPLE OVERVIEW.

1.1. RELEVANCE AND JUSTIFICATION OF THE RESEARCH

This doctoral dissertation involves a deep assessment of two of the capabilities that major weight and influence have nowadays within the management field literature. These capabilities are the firm's knowledge absorption capacity and innovation ability. Currently there is numerous evidence that reveal the high importance and magnitude that these topics are arising. Both at the enterprise and the academic level, a large number of publications –scientific papers, books, special issues, journals, etc.–, as well as courses, seminars and conferences are proliferating. These capabilities are increasingly settled at the core of firms' corporate strategy.

The emergence of knowledge as one of the key factors upon which organizations are basing the obtaining and maintaining of competitive advantage, generated that the efficient management of this resource turned into a plot of increasing interest for managers. Over the last few decades, it could be appreciated the rise of the so-called knowledge-based organizations. Knowledge-intensive enterprises are characterized by a strong orientation towards knowledge generation and acquisition, and the firm's commitment to the development of activities and strategies linked with innovation and learning. These knowledge-intensive firms have achieved such relevance that some scholars even posit the existence of a paradigm shift from the industrial economy to the currently known as knowledge economy. Knowledge has traditionally been an essential component, as well as one of the main drivers of the economic and social gains that have occurred throughout history. Nevertheless, it has been relatively recently that terms such as "information society", "learning society" or "society of knowledge and innovation" have been coined.

The social-economic scenario within which we currently operate is characterized by a greater complexity than some years ago. The business environment has become deeply globalized, and high doses of diversity and dynamism perfectly describe the daily context that organizations have to deal with every day. This new environment within which an

excess of information and uncertainty flourish, has lead firms to feel the necessity to progressively reorientate their approach towards knowledge management, aiming hence to generate sustainable competitive advantages. Thus, knowledge management (KM), and therefore, absorptive capacity (ACAP) have become indispensable in order to being able to adapt to a constantly-evolving world. Knowledge has become the main source of competitive advantages (Grant, 1996). In words of Nonaka (1991), both individuals and organizations are nowadays immersed in an intense "knowledge spiral". This author specifically pointed out that in an economy characterized by immense doses of uncertainty and volatility, the only reliable source of sustainable competitive advantages is knowledge. In an environment where markets are constantly changing, numerous companies proliferate, competitors multiply and products practically become obsolete overnight, the formula for business success deals with knowledge creation and application. This new knowledge must be shared and disseminated throughout the firm and incorporated or embodied in new products, services, processes or technologies. This is what essentially constitutes the core of the business innovation process. The so known as the "knowledge-creating company" –concept coined by Nonaka (1991)–, focuses on a continuous quest for innovation and supposes a strategy that has been gaining a great deal of significance and is being adopted by a large number of companies around the world.

Although it has been extensively researched, how companies turn the knowledge they absorb into innovation remains a puzzle. The purpose of this thesis is hence, to study in depth the tie between firms' absorptive capacity and innovation outcomes and their role as generators of sustainable competitive advantages. Since the firm's absorptive capacity is believed to have the capacity to influence innovation outcomes and performance, factors affecting ACAP are likely to also influence this tie. We further suggest that such a positive effect is likely to be moderated by several factors both internal and external to the firm. Therefore, the effects that potential enablers and barriers may exert upon this relationship are assessed as well. This study addressed in particular the moderating roles played by relational learning mechanisms (RL) and cultural barriers (CB).

As is mentioned above, these topics have been increasingly capturing the interest of both the academic and professional worlds. In this sense, the works concerning the links between knowledge management, innovation and absorptive capacity have multiplied in recent years. For this reason it has been deemed necessary to carry out a theoretical review

on this issue. We have devoted a significant effort on this matter, in order to better understand and define all the constructs involved in this study as well as its dimensions.

The interest underlying the study of absorptive capacity and innovation as strategical sources of competitive advantage must be understood in a twofold perspective: on the one hand, at the academic level, as we cover and develop a very current and at the same time incomplete research topic. To this aim, a profound task of compilation of the most relevant prior literature on these issues has been carried out. On the other hand, at the professional or managerial level, as this study contributes to develop the comprehension of a topic that concerns to all those managers that currently lead knowledge-based and innovative organizations or that seek to do so in the future. In this vein, the present study links the theoretical advances in absorptive capacity and innovation with the current business reality. This enabled us to reach interesting conclusions and managerial implications.

1.2. OBJECTIVES OF THIS THESIS

Although scholars have recognized the value of studying the link between absorptive capacity and firm innovativeness, the exploration of such insights has remained largely conceptual or descriptive. The main purpose that this thesis arises deals with the deepen understanding of the roles played by the firm's knowledge absorptive capacity and innovativeness in the path of attracting long lasting competitive advantage that may, in turn, lead to greater business performance. We are hence interested on how these capabilities and their interactions enable firms to survive, grow and better adapt to the volatility inherent to the current economic environment.

Although these topics aroused a huge interest and still doing so nowadays, the study of these constructs remains complicated due to the diversity and ambiguity that can be appreciated on their definitions, dimensions and research models that surround them. Therefore, to fully address these insights, we broadly approach this study with the aim of answering the following research questions:

- Question 1: Is potential absorptive capacity a truly antecedent of realized absorptive capacity?
- Question 2: Is knowledge absorptive capacity positively associated to the firm's innovation outcomes?
- Question 3: Does the firm's relational learning capability reinforce the relationship between absorptive capacity and innovation outcomes?
- Question 4: Do the firm's cultural barriers hinder the relationship between absorptive capacity and innovation outcomes?

In order to make this ambitious objective more affordable, we have divided this study in a set of more simple objectives, which we have formulated as follows:

- To clarify the concept of knowledge absorptive capacity, as well as the concept of innovation, gathering the different definitions, main focuses and approaches used to untangle these concepts.
- Gathering and comparing the main research models that focus on the study of organizations' absorptive capacity and innovation outcomes.
- Identifying the different dimensions that shape the constructs used in our study. Once identified, selecting the more suitable scales to measure them.
- Evaluating the different organizational outcomes that may be reinforced or originated by the firm's absorptive capacity or innovative efforts.
- Assessing the different antecedents and variables that could exert a moderating effect on the relationship between absorptive capacity and innovation outcomes.
- Empirically testing the research hypotheses.
- Establishing conclusions that may help both researchers and managers to be aware of and better understand the potential benefits they could obtain from the development of innovative and absorptive capacity strategies within their organizations.

Satisfying these research objectives allows us to make a contribution in the management field for the following reasons: firstly, we carried out an extensive review of the most relevant literature concerning these topics, which in turn, has been grouped around an integrative framework. Secondly, this study sheds light and contributes to the

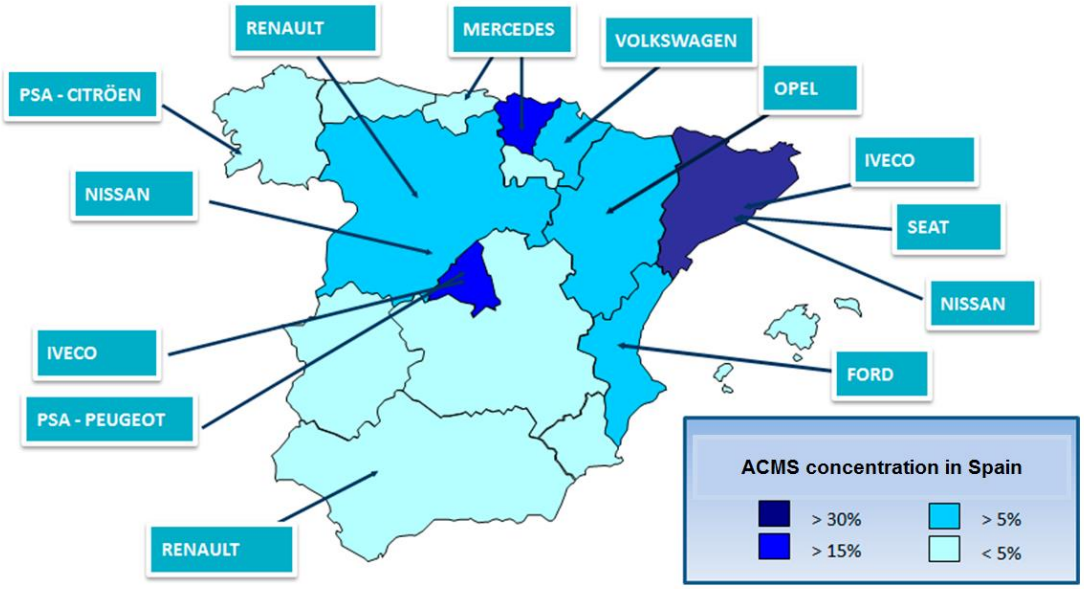
advancement of these research lines, as we empirically test the moderating effects of variables such as RL and CB that contribute to reinforce or decrease the effect that knowledge absorptive capacity exerts on innovation outcomes within organizations. To empirically test these theoretical propositions we relied on the use of partial least squares, a variance-based structural equation modeling technique (PLS-SEM). Our analysis provides strong support for the hypotheses predicted.

1.3. SECTOR OVERVIEW

For the accomplishment of the present study we decided to set our sample on the Spanish automotive components manufacturing sector (ACMS). The reason for this decision is based on the consideration of this sector as an innovative and knowledge-intensive industry. This industry particularly operates in the following way: channeling its operations through the use of project teams, seeking and making an intense use of external knowledge, and maintaining strong relationships of interdependence in supply chains. Within the automotive sector it becomes especially important to being able to develop new technologies or novelties concerning the production processes.

The Spanish automotive industry is a world reference. Spanish car manufacturing companies together with the fabricants of components for the automotive industry shape a widely recognized prestigious tandem in terms of results and competitiveness. This sector is a model of success due to its great dynamism and ability to generate growth within an economic environment as complex as the current one.

Figure 1. ACMS concentration in Spain



Source: Sernauto (2014)

The Spanish automotive sector's ability of generating employment and overcoming the ups and downs of the economic crisis has converted this industry into an example to follow. In order to illustrate this with some data, it should be highlighted that Spain is the second manufacturer of vehicles in Europe and the eleventh at the world level. As for the weight of the automotive industry within the Spanish economy, this sector represents 10% of the GDP and employs a 9% of the working population. During the year 2012 1.98 million vehicles were made in Spain and up to 87% of this production was exported. Concerning the automotive components manufacturing sector (ACMS), the turnover of the year 2012 exceeded the figure of €27,000 millions. (PwC, 2013). The powerful Spanish automotive components industry is one of the key factors that explains the competitiveness of the automotive sector. Around 1000 companies integrate the ACMS and up to 720 business groups are installed in Spain, ensuring the service and supply of the cars manufacturing plants (Sernauto, 2014). The whole population of firms that compose the ACMS in Spain can be found at the end of this thesis, in the Appendix section.

1.4. THESIS STRUCTURE.

This thesis is structured in the following manner: the present introductory chapter is followed by Chapter 2, which includes a deep theoretical review of the main constructs that conform this study, as well as the dimensions that shape them. Then, three scientific papers and a final chapter containing global findings and conclusions appear. Below, we briefly describe the contents of each of the above-mentioned chapters.

In chapter 2 we carried out a review of the major contributions that the scientific literature has made in terms of innovation, knowledge management, absorptive capacity, organizational learning and organizational culture. In doing so, we have tried to find the theoretical foundations underlying the different constructs that are approached in this study. We gather the different definitions that the literature provides for these constructs, and propose a definition that integrates the main prior contributions. We further identify the different dimensions and scales used to measure the different constructs as well as the main models that approached these issues.

Chapter 3 contains the paper entitled "*The moderating role of relational learning on the PACAP–RACAP link. A study in the Spanish automotive components manufacturing sector*" (Revista Europea de Dirección y Economía de la Empresa, 2013). This paper adopts Zahra and George's (2002) conceptualization of absorptive capacity, which considers it as two subsets – potential absorptive capacity (PACAP) and realized absorptive capacity (RACAP). Hence we have hypothesized a positive relationship between PACAP and RACAP. We also hypothesized a positive relationship between relational learning (RL) and RACAP. Finally we have assessed the moderating role of RL in the PACAP–RACAP link.

Chapter 4 presents the paper entitled "*From potential absorptive capacity to innovation outcomes in project teams: The conditional mediating role of the realized absorptive capacity in a relational learning context*" (International Journal of Project Management, 2014). Starting from the construct absorptive capacity, this study separately treats its two dimensions –potential absorptive capacity (PACAP) and realized absorptive capacity

(RACAP)– and analyzes their influence on innovation outcomes (IO) in project teams. We also examine potential absorptive capacity as an antecedent of realized absorptive capacity. In addition, we propose that relational learning (RL) will play a moderator role reinforcing the PACAP–RACAP link

Chapter 5 encloses the paper entitled "*Absorptive capacity, innovation and cultural barriers: A conditional mediation model*" (Journal of Business Research, 2014). On the basis of Zahra and George's (2002) conceptualization of absorptive capacity, this paper addresses these two dimensions –PACAP and RACAP– separately, and analyzes their influence on innovation outcomes (IO) within organizations. This study also examines the mediating role of RACAP in the relationship between PACAP and IO. We therefore posit that the link between PACAP and IO is mediated by RACAP. Furthermore, the paper contains a discussion on the moderating role of cultural barriers (CB) in decreasing the PACAP–RACAP and the RACAP–IO links.

Finally, Chapter 6 exposes the overall discussion of the results as well as the conclusions, implications –both at the academic and the managerial level– , and limitations of this study. The chapter ends establishing several lines of research that we aim to develop in the future in order to enhance and improve this thesis.

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CHAPTER 2

THEORETICAL FOUNDATIONS

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2.1. THEORETICAL FOUNDATIONS ON INNOVATION.

2.1.1. Delimitation of the concept of innovation.

Already at the beginning of the 20th century, Schumpeter (1934) pointed out that innovation is the driving force of economic development. Since then, the desire to understand what innovation actually is and what are the factors that determine it, has contributed to attract the profound interest of academics, managers and even statesmen. Innovation is still a topic which arises a wide amount of academic research and plenty of scholars highlight the significance of innovation as a driver of structural change and economic growth. In this vein, the number of specialized scientific journals, books, special issues, seminars, scientific conferences and symposiums has significantly proliferated.

Innovation is widely considered to play a relevant role at the attainment of competitive advantages and business performance. However, this topic goes beyond the managerial literature and is embraced by a wide range of disciplines such as psychology, marketing, communication, anthropology, sociology, engineering, etc. (Johannessen et al., 2001). Possibly, this vast amount of works related with this topic and the multifaceted nature of innovation exposed above has led to the existence of some incongruence and a lack of clarity concerning this issue. Therefore, we consider appropriate to carry out a brief revision of the key literature concerning innovation with the aim of delimiting the meaning of this concept, particularly oriented to the managerial field.

The etymological origin of the word innovation is the Latin term "*innovare*", which means the transformation of something through the introduction of some novelty. Damanpour (1991) defines innovation as the generation and development of new products, services or processes. According to Porter (1990), innovation deals with a new way of doing what is commercialized. Innovation involves hence invention and commercialization.

Prior research highlights innovation as a key requirement for firms seeking to adopt new technologies, grow and penetrate on new markets, being able to adapt to the customers' needs and requirements, reach sustainable competitive advantages and enhance their organizational performance (Jiménez-Jiménez and Sanz-Valle, 2011). However, there exists some controversy concerning the following issue: "when should be considered that innovation has occurred?". Two conflicting positions can be found in the literature regarding this concern: on the one hand there are some authors who concider that innovation appears once a novelty or new idea concerning a product, service or process has been generated (Zaltman et al., 1973; Damanpour, 1987; Damanpour and Gopalakrishnan, 1998). On the other hand, there are several studies that sustain that in order to be considered innovation, it is not enough to generate this novelty or new idea, but it becomes necessary to effectively develop and apply this idea to commercial ends (Nelson, 1968; Escorsa and Valls, 1997). Hence, the first group locates innovation at the initiation stage, while the second one situates it at the implementation stage.

2.1.2. Types of innovation.

The deeper one goes within the concept of innovation, the hardest it becomes to properly define it. Therefore, it is necessary to distinguish whether we are focusing on product or process innovation, whether we approach innovation globally or at a concrete stage, if we approach it from a technical or administrative point of view, if it is a disruptive –radical– or incremental innovation, etc.

Although the literature has distinguished among multiple typologies of innovation, the most widely extended and utilized are the ones comprised on the table below. In this sense, it is useful to distinguish between: (i) radical innovations –those that introduce substantial changes– and incremental innovations –those that only introduce a small and gradual variation–; (ii) product innovations –the generation and introduction of new products or services within the market– and process innovations –innovations based upon the development of novel production processes, new technologies or managerial styles–; and finally (iii) technological innovations –new techniques or methods that lead to the

development of new products, services or technologies– and administrative innovations –innovations more oriented or linked to managerial aspects–.

Table 1. Main typologies of innovation

Criteria	Typology	Literature
According to the degree of novelty or change that involves	Radical innovation	Zaltman et al. (1973); Kimberly (1981)
	Incremental innovation	
According to the user	Product innovation	Zaltman et al. (1973); Damanpour (1991)
	Process innovation	
According to the scope	Technological innovation	Daft (1978), Damanpour (1987), Eisenhardt y Martin (2000),
	Administrative innovation	

Source: Own elaboration

2.2. THEORETICAL FOUNDATIONS ON KNOWLEDGE MANAGEMENT.

2.2.1. Delimitation of the concept of organizational knowledge.

In order to situate ourselves appropriately within the framework of knowledge management (KM), it seems to be convenient to strictly delimit the concept of knowledge, this is, to differentiate what can be considered knowledge of what does not. In this respect, developing and diving into a knowledge-based theory, necessarily implies to face the question of "what is knowledge?" (Grant, 1996).

The concept of knowledge is especially wide and multifaceted, and hence, there is a vast diversity of definitions and ways to approach it. However, most of them coincide on the essentials. In a broad and simple sense, and despite the redundancy, knowledge can be defined as "everything that is known" (Grant, 1996). Schulz (2001) defines it in turn as everything that has been learnt trough practice or study. Nonaka and Takeuchi (1995) emphasize the important role played by experience in the process of knowledge obtaining. In this vein, Davenport and Prusak (1998) define knowledge as a set of experiences,

values, contextual information and expert insight, that provides a framework for assessing and incorporating new experiences and information.

Once assumed that knowledge –both at the individual and organizational levels– supposes a valuable resource for the firm, managers should enquire themselves: "how should we manage what we know?". The firm's acquired knowledge can lead companies to enhance their outcomes and reach competitive advantages, but its mere existence does not necessarily imply this success if this active is not effectively managed. As we penetrate into the core of organizations, the existence of information and knowledge flows –both formal and informal– can be easily identified. However, this knowledge does not always gets to be efficiently transmitted and leveraged. This is broadly what knowledge management (KM) attempts to solve. Thereby, KM becomes a fundamental area of interest within the managerial literature.

The literature provides plenty of definitions for KM and there is a lack of consensus about its exact meaning. However, many of these conceptualizations approach KM as a wide set of key techniques, methods and procedures useful for successfully managing knowledge within organizations. The table below contains a set of definitions that approach KM in a similar perspective.

Table 2. Main definitions of KM

Authors	Definition
Nonaka and Takeuchi (1995)	The process of explicitly managing the firm's intangible assets –knowledge–, generating, searching, storing and transferring knowledge with the purpose of enhancing the firm's performance and productivity.
Wiig (1997)	A set of practices oriented to effectively understanding, focusing and managing the knowledge creation, renewal and application in a systematic, explicit and intentioned way.
Van der Spek and Spijkervet (1997)	The explicit management and control of knowledge within organizations with the aim of reaching the firm's goals and objectives.
Liebowitz and Wilcox (1997)	The firm's capability of managing, storing, valuing and distributing knowledge.
O'Leary (1998)	The firm's formal management of knowledge with the aim of enabling the creation, access, and reutilization of knowledge, generally through the use of advanced technologies.
Davenport and Prusak (1998)	A set of processes oriented to capturing, distributing, and effectively using knowledge within organizations.
Teece (2000)	A set of procedures and techniques used to obtain the most from a firm's knowledge assets.
Jashapara (2004)	The effective processes linked with exploration, exploitation and distribution of human knowledge using appropriate technology and cultural environments to enhance the firm's intellectual capital and performance.

Source: Own elaboration

As it can be observed, most of the definitions comprised in the table above are essentially prescriptive. Thus, they consider knowledge a key resource organizations ought to effectively manage in order to reach better results and enhance performance.

2.2.2. Dimensions of knowledge.

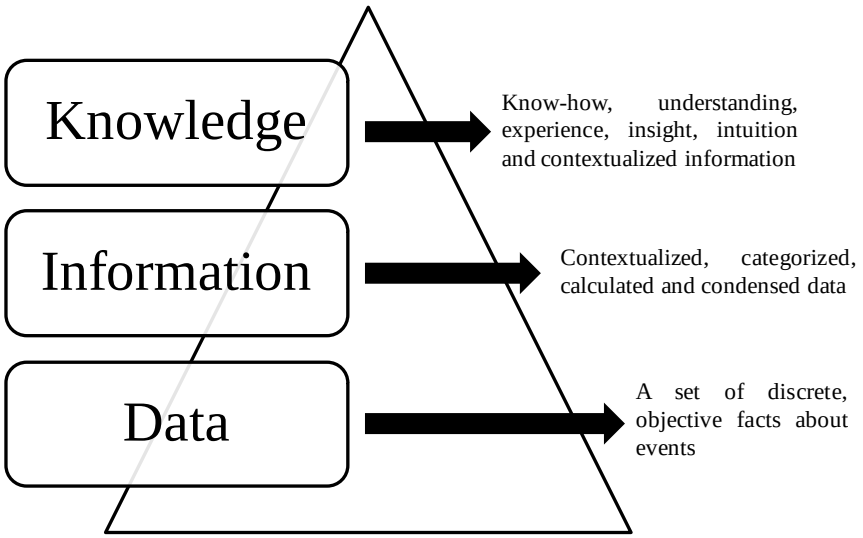
The literature concerning knowledge management comprises different dimensions or classifications of knowledge. The principal classifications are: The systemic dimension (data, information and knowledge), the ontological dimension (individual–social), and the epistemological dimension (explicit–tacit).

2.2.2.1. The systemic dimension of knowledge.

If we approach knowledge from a systemic focus (input- process-output), we could understand data as the input, information as the process and knowledge as the output (Real-Fernández, 2003). The association of these three concepts –data, information and knowledge– turns out to be relatively frequent. Although these three concepts are narrowly related, they are different in nature, and hence, it would be a mistake to consider them synonyms.

In this sense, Davenport and Prusak (1998) provide the following distinction among these three concepts. According to these authors, data constitute a set of objective and discrete facts related to a specific event. The firm's sales figure or its market share are good examples of data. Information, in turn, is understood as a message, generally in form of a document or audiovisual format. Data itself does not contain value judgments and therefore, it would not lead to or enable decision-making. Nevertheless, after the process of assigning meaning to data, it turns into valuable stuff for the decision-maker. We obtain information from data by empowering them with a context and a purpose. Only after assigning meaning to data, these are converted into information. Similarly as data become information when an individual assigns them a certain value or meaning, information becomes knowledge when the individual interprets this information in combination with its own experience and knowledge base. Knowledge comprises a combination of experiences, values, contextual information and insight which provides a framework for the assessment and acquisition of information and new experiences (see Figure 2).

Figure 2. Systemic dimension of knowledge.



Source: Own elaboration on the basis of Davenport and Prusak (1998).

Therefore, knowledge can be distinguished from information, as it is the outcome of a transformation or learning process within the individual's mind. From this view, knowledge results from a course of processing, structuring and interpreting information (Nonaka, 1994).

2.2.2.2. The ontological dimension of knowledge.

There has traditionally been a debate concerning the level of analysis of knowledge and learning. There are authors which strictly attain the learning process to the individual (Simon, 1991; Grant, 1996). On the other hand there are authors that situate learning at the core of the organization, due to the knowledge storage within the firm's knowledge base and organizational memory (Hedberg, 1981; Levitt and March, 1998). There are also differences concerning the passage from individual to organizational learning. While Kim (1993) proposes a direct path, Crossan et al. (1999) introduce the group level as intermediate between individual and organizational levels. Studies such as those from Von Krogh and Roos (1995) or Spender and Grant (1996) sustain that knowledge initially comes from the individual, and it turns social or collective once it becomes shared and disseminated throughout the organization.

Nonaka (1994, p. 15) argues in this sense that, “although ideas are formed in the minds of individuals, interaction between individuals typically plays a critical role in developing these ideas”. This supposes a further dimension on organizational knowledge creation, involving the extent to which knowledge value is enhanced and new knowledge is developed by means of social interaction mechanisms. This is known as the ontological dimension of knowledge creation.

2.2.2.3. The epistemological dimension of knowledge.

Among all the existing classifications of knowledge, the most widely acknowledged is the one provided by Polanyi (1966). This author was the first to distinguish between tacit and explicit knowledge. This separation between tacit and explicit was subsequently developed and completed by Nonaka and Takeuchi (1995).

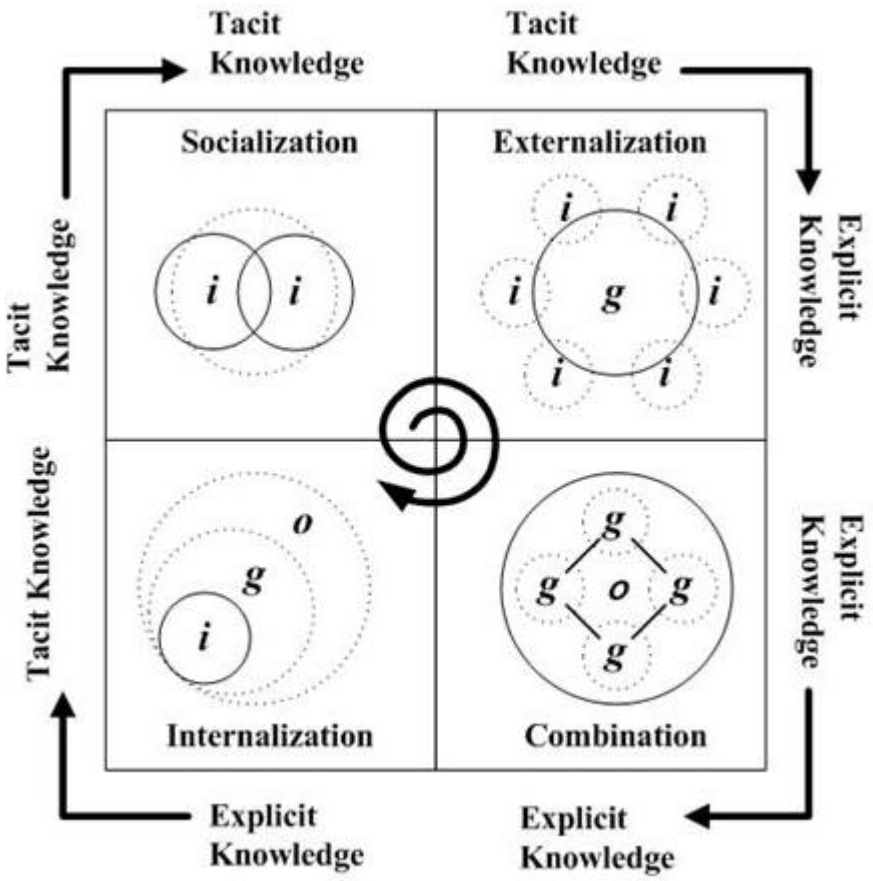
Tacit knowledge involves that knowledge which is personal or inherent to the individual. This knowledge is deeply embedded within the individual’s mind and is widely associated with its own practical experience. Tacit knowledge is hence, personal and context-specific, difficult to formulate or exteriorize. Individuals frequently know much more than they could express or even imagine. There is some kind of knowledge that uniquely can be learnt by means of imitation or practical experience.

There is, however, another type of knowledge, characterized for being more formal and systematic. This knowledge can be simply articulated and can be easily communicated and transmitted. This type of knowledge ceases to be personal or inherent to the individual, and can be acquired by other members of an organization. Explicit knowledge is hence, a codified, articulated and easily transmissible knowledge, which can be translated into a formal and systemic language (Nonaka and Takeuchi, 1995).

This distinction between tacit and explicit knowledge led these authors to develop a matrix model of knowledge conversion or transferring, in which four ways of knowledge generation can be identified. This matrix is known as the "SECI model", being an acronym for the four methods of knowledge generation identified or proposed by the authors: socialization, externalization, combination and internalization (see Figure 3).

Socialization, or the process of converting tacit knowledge into new tacit knowledge involves knowledge-sharing in an eminently social manner, that is, face to face, or well sharing experiences through observation, imitation and practice. Externalization, on the other hand, is the process of tacit knowledge articulation into explicit knowledge, either through its codification –written, audiovisual– or made tangible in some other way. Once externalized, knowledge is tangible and permanent. Another method of knowledge generation is through combination. Individuals can also combine various fragments of explicit knowledge in order to generate new explicit knowledge. A good example is researchers' work, who consult and collect literature from various sources, and bring them together in the form of a scientific paper or book. Finally, internalization deals with the process of passing from explicit to tacit knowledge. This occurs when individuals absorb or soak recently acquired knowledge. This is closely related to the so-called practical learning or "learning by doing".

Figure 3. The SECI Model.



Source: Nonaka and Konno (1998, p. 43).

2.2.3. The knowledge-based view of the firm.

From the beginning, the Resource-based view of the firm (Grant, 1991; Barney, 1991; Peteraf, 1993) seeks to deepen trough the organizations' heterogeneity due to their diverse resources configuration and its role while reaching and sustaining competitive advantages (Real-Fernández, 2003). In words of Nonaka (1991), both individuals and organizations are nowadays immersed in an intense knowledge spiral. This author specifically points out that "in an economy where the only certainty is uncertainty, the only sure source of sustainable competitive advantage is knowledge" (Nonaka, 1991, p. 96). It seems to be clear that, if not the most important, knowledge is nowadays a major resource for plenty of companies and an essential basis of competitive advantage.

Therefore, the knowledge-based view of the firm has its roots on the resource-based view. From this perspective, knowledge is at the core, as it is considered a pivotal strategic resource, which is difficult to transfer or replicate, and hence, it serves as a basis for the generation of sustainable competitive advantages (Zander and Kogut, 1995; Grant, 1996; Teece et al., 1997; Real-Fernández, 2003). Although it is undeniable that the literature concerning the resource-based view of the firm has had a significant influence on this new focus, it would be a mistake to concider the knowledge-based view as a mere extension of the resource-based view. Moreover, the knowledge-based view entails a broader perspective and has its own identity.

The fundamental premises which uphold this theory are the following: (i) knowledge is considered the firm's main strategical resource, as it constitutes a sustainable source of competitive advantage; (ii) different types of knowledge (i.e. tacit–explicit involve different transmission and dissemination forms); and (iii) individuals are the main responsible for knowledge-creation, specially for tacit knowledge (Grant, 1996).

Remarking knowledge as the main or pivotal resource can be justified on the basis of the arguments provided by the resource-bases view, which posits that in order to be strategically important, and hence becoming a source of sustainable competitive advantages, resources must meet four requirements: being valuable, rare, difficult to imitate and not replaceable (Barney, 1991).

On the other hand, simultaneously to the knowledge-based view, there have been proliferating several currents and research lines which are characterized by sharing its interest in knowledge. Among them there can be found theories and topics such as the Core Competence of the Corporation (Prahalad and Hamel, 1990), Organizational Learning (Senge, 1991; Leonard-Barton, 1992), Knowledge Management (Nonaka, 1994; Nonaka and Takeuchi, 1995), or Dynamic Capabilities (Teece et al., 1997).

2.4. THEORETICAL FOUNDATIONS ON ABSORPTIVE CAPACITY.

2.4.1. Notion of absorptive capacity.

Absorptive capacity (ACAP) was initially defined by Cohen and Levinthal (1990, p. 128) as "the ability of recognizing new external knowledge, assimilating and applying it to commercial ends". Therefore, it refers to a key element within the organizational learning process. These authors suggest furthermore that this is a critical capability for a firm which seeks to be innovative, and that it depends to a great extent of the level of prior related knowledge the firm already possess.

There are several studies which, on the basis of Cohen and Levinthal's (1990) delimitation of ACAP have provided their own definition. Below there are some of the most significant efforts to enhance the meaning and improve the conceptualization of absorptive capacity.

In a first approximation towards the concept of absorptive capacity, Mowery and Oxley (1995) define it as a broad set of abilities that are needed to deal with the tacit components of the transferred technology, as well as the frequent necessity of modifying external sources of technology. As can be seen, this conceptualization is oriented towards the absorption of technological-based knowledge.

On the other hand, Kim (1998) posits that absorptive capacity deals with the capacity to learn and solving problems. This author matches absorptive capacity with the ability to learn and solving troubles.

Lane and Lubatkin (1998) conceptualize absorptive capacity by sustaining that it involves a firm's ability to evaluate, assimilate and apply a new piece of knowledge offered by other firm. These authors make a very interesting contribution, as they modify the analysis unit, passing from the firm level to the master-pupil pair, in which the ability of a firm to learn from another is determined by the characteristics of both the firm that learns –pupil– and the firm that teaches –master–. This gives rise to the so-called relative absorptive capacity.

Zahra and George (2002) propose the most widely accepted and followed model of absorptive capacity. These authors define the ACAP as a dynamic set of routines and organizational processes through which companies acquire, assimilate, transform and exploit knowledge. According to these authors, absorptive capacity is divided into two phases, dimensions or different time periods: (i) potential absorptive capacity (PACAP) and (ii) realized absorptive capacity (RACAP). PACAP contains the firm's ability to acquire and assimilate knowledge, this is, the effort that this company makes with the aim of identifying and acquiring new knowledge from outside the firm, and then assimilating it internally. RACAP for its part is confined to the transformation and exploitation of knowledge by the organization. knowledge transformation and exploitation involve extracting new points of view, reasoning, and conclusions from the combination of the firm's existing knowledge and the recently acquired and its further application to the firm's operations.

In a later work, Lane, Koka and Pathak (2006) define ACAP as the firm's ability to take advantage from the externally obtained knowledge by means of three sequential processes: (i) recognizing and identifying the value of the new external knowledge, (ii) assimilating the valuable new knowledge, and (iii) applying the assimilated knowledge in order to create new knowledge and obtaining commercial outcomes. This is accomplished by means of three types of learning, which are exploratory, transformative and exploitative learning respectively.

On the other hand, Todorova and Durisin (2007) define ACAP as the firms' ability to recognize the value of external knowledge, and of further acquiring, assimilating and exploiting it. These authors hence combine the studies of Cohen and Levinthal (1990) and Zahra and George (2002). Todorova and Durisin (2007) adopt the original idea of Cohen and Levinthal (1990) which suggest that the ACAP process should begin by identifying and recognizing valuable external knowledge. They further question Zahra and George's (2002) model in terms of the extent to which assimilation and transformation are following stages, presenting them instead as sometimes complementary phases.

Cepeda-Carrión, Cegarra-Navarro and Jiménez-Jiménez (2012) link the concepts of absorptive capacity and firm innovativeness in a more direct manner. According to these

authors, A firm's ACAP is the quality that enables the conversion of knowledge into new products, services or processes, supporting hence innovation.

In our attempt of improving the conceptualization and understanding of this construct, we intend to provide a new definition of absorptive capacity. Therefore, we propose that a firm's ACAP is the ability that enables the acquisition of recently generated knowledge, its internal assimilation and combination with the firm's prior related knowledge, in order to learn, creating new knowledge and applying it to the firm's innovation process.

The Table bellow synthesizes the main definitions of absorptive capacity provided above, linked to the authors which posited them:

Table 3. Main definitions of ACAP

Authors	Definition
Cohen and Levinthal (1990)	ACAP is the ability of recognizing new external knowledge, assimilating and applying it to commercial ends.
Mowery and Oxley (1995)	ACAP involves a broad set of abilities that are needed to deal with the tacit components of the transferred technology, as well as the frequent necessity of modifying external sources of technology.
Kim (1998)	ACAP deals with the capacity to learn and solving problems.
Lane and Lubatkin (1998)	ACAP involves a firm's ability to evaluate, assimilate and apply a new piece of knowledge offered by other firm.
Zahra and George (2002)	ACAP is a dynamic set of routines and organizational processes through which companies acquire, assimilate, transform and exploit knowledge.
Lane, Koka and Pathak (2006)	ACAP deals with the firm's ability to take advantage from the externally obtained knowledge by means of exploratory, transformative and exploitative learning.
Todorova and Durisin (2007)	ACAP is the firms' ability to recognize the value of external knowledge, and of further acquiring, assimilating and exploiting it

Cepeda-Carrión, Cegarra-Navarro and Jiménez-Jiménez (2012)	ACAP is the quality that enables the conversion of knowledge into new products, services or processes, supporting hence innovation.

Source: Own elaboration

2.4.2. Levels of assessment of absorptive capacity.

After an exhaustive review of the literature on absorptive capacity, there can be identified up to five levels of analysis in which the study of this construct can be framed. We exhibit them below, from lowest to highest aggregation grade.

1. *Individual level*. It refers to the minimum level of absorptive capacity, where the tie between ACAP and organizational learning (OL) becomes clearer. (Van den Bosch, Wijk and Volberda, 2003). In this context is where the concept of individuals' memory development and their capacity to absorb new knowledge and being able to link it with its knowledge base makes sense (Cohen and Levinthal, 1990). Therefore, two factors – possessing prior related knowledge and the ability to absorb new external knowledge and associate it with the knowledge base– stand out. Many studies suggest the importance of assessing individual ACAP as a key element on the firm's knowledge absorption process.

2. *Group level*. Organizations usually rely on the use of subunits, teams or divisions in order to canalize their work and activity. Therefore, it seems appropriate to concider the assessment of ACAP at this level. Studies such as those performed by Gupta and Govindarajan (2000) or Tsai (2001) are intended to untangle this issue.

3. *Organizational level*. This assessment level involves the organization as a whole. The assessment of ACAP at this level becomes especially relevant, as knowledge creation is a process that not only underlies the firm's individuals. A firm's ACAP is much more than the sum of their employees' individual ACAP. This is the field which has raised greater interest and bigger number of research studies (Szulanski, 1996; Kim, 1998; Zahra and George, 2002).

4. *Interorganizational level*. Although the study of ACAP is usually focused towards the firm level, there also may exist a superior level of assessment. This is the case of

companies which are involved in partnerships, strategic alliances or collaboration agreements with other firms.

5. *Macroeconomic level*. Departing from the previous premise, ACAP can also be analyzed at a higher level than the interorganizational one. It could be interesting to assess ACAP at an specific country or region, or within an industry in particular (Azagra-Caro et al., 2006).

2.4.3. Research models of absorptive capacity.

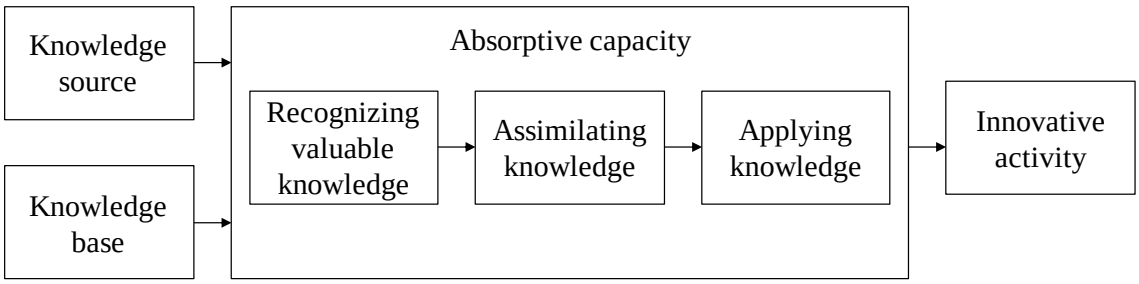
According to Box (1976, p. 791) "science is a means whereby learning is achieved, not by mere theoretical speculation on the one hand, nor by the undirected accumulation of practical facts on the other, but rather by a motivated iteration between theory and practice". This author argued that some models are useful, as they contribute to synthesize complex information and enable learning. Hence, models often are very interesting tools that mediate between theory development and empirical information (Morgan and Morrison, 1999).

With this purpose, we subsequently gather some of the most relevant models in the literature concerning absorptive capacity: (i) the model of Cohen and Levinthal (1990), (ii) the model of Lane, Salk and Lyles (2001), (iii) the model of Zahra and George (2002), (iv) the model of Jansen, Van den Bosch and Volberda (2003), (v) the model of Lane, Koka and Pathak (2006), and (vi) the model of Todorova and Durisin (2007).

2.4.3.1. The model of Cohen and Levinthal (1990).

Cohen and Levinthal (1990) are the scholars which firstly introduced the concept of absorptive capacity. These authors define ACAP as the firm's ability to recognize the value of new external knowledge in order to assimilating and applying it to commercial ends. The model proposed by these authors has been taken as the base for multiple further studies, and many works have been intended to enhancing and amplifying it. The following figure illustrates this model:

Figure 4. The model of Cohen and Levinthal



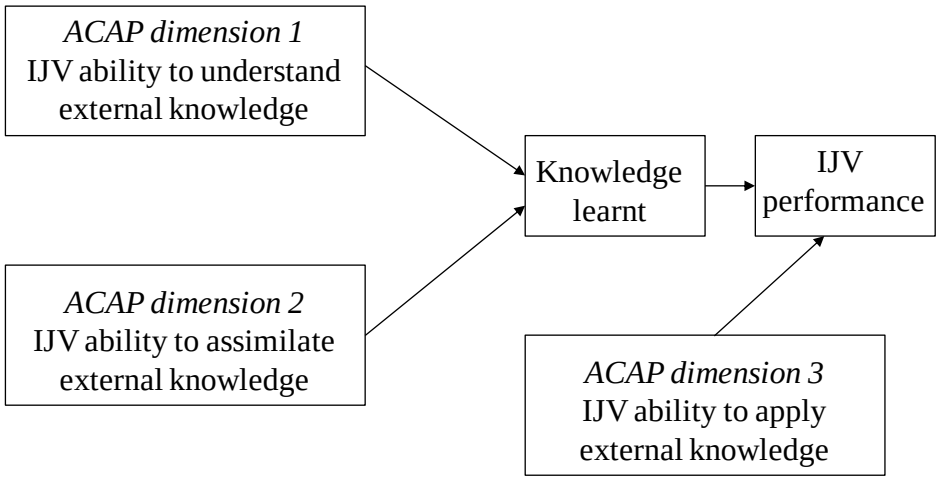
Source: Own elaboration based on Cohen and Levinthal (1990)

As the Figure above illustrates, this is a relatively simple model, where ACAP sequentially depends from external knowledge sources and the internal amount of prior related knowledge or knowledge base. Within this framework, ACAP encompasses three sequential dimensions –knowledge recognition, knowledge assimilation and knowledge application–. ACAP is in turn hypothesized as an antecedent of the firm's innovative activity.

2.4.3.2. The model of Lane, Salk and Lyles (2001).

The model of Lane et al. (2001) assesses absorptive capacity within the context of international joint ventures (IJV). This model divides ACAP according to the three dimensions proposed by Cohen and Levinthal (1990) –knowledge recognition, assimilation and application–. Knowledge recognition and assimilation contribute to enhance the firm's knowledge learnt. However, the firm's capacity of applying external knowledge is directly linked with organizational performance. This aspect relates with the concept of realized absorptive capacity, developed by Zahra and George (2002).

Figure 5. The model of Lane, Salk and Lyles



Source: Own elaboration based on Lane et al. (2001)

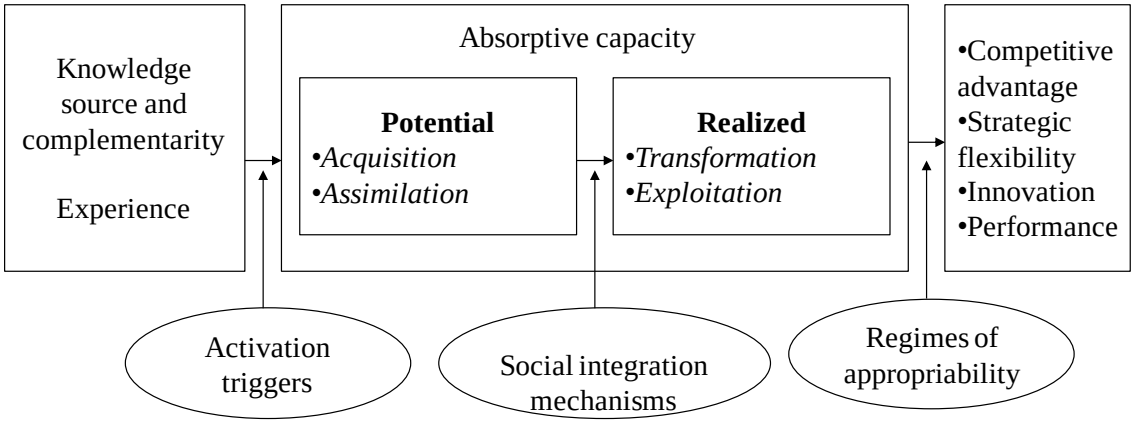
2.4.3.3. The model of Zahra and George (2002).

Zahra and George (2002) reconceptualize absorptive capacity as a dynamic set of routines and organizational processes through which firms are able to acquire, assimilate, transform and exploit knowledge. Accordingly, these authors distinguish between two different but complementary subunits of ACAP: on the one hand potential absorptive capacity (PACAP), which in turn is composed of two dimensions –knowledge acquisition and assimilation–, and on the other hand, realized absorptive capacity (RACAP), which involves knowledge transformation and exploitation dimensions.

This model posits external knowledge source and complementarity and experience as antecedents of ACAP. Moreover, these authors hypothesize ACAP as an antecedent of the firm's competitive advantage, strategic flexibility, innovation and performance. These authors also propose the existence of three moderating effects: (i) Activation triggers moderate the link between the firm's PACAP and its antecedents, as they foster the firm's endeavor on the search of external knowledge; (ii) Social integration mechanisms moderate the passage from PACAP to RACAP, as they contribute to reduce the gap existing between both subunits by reducing the existing barriers to knowledge sharing within the organization, and (iii) the regimes of appropriability moderate the link between RACAP and the consequent variable, as these authors suggest that the ease or difficulty for the competence to replicate or imitate the results may play a moderating role on the

link between RACAP and the attainment of sustainable competitive advantage, business performance or innovative results.

Figure 6. The model of Zahra and George



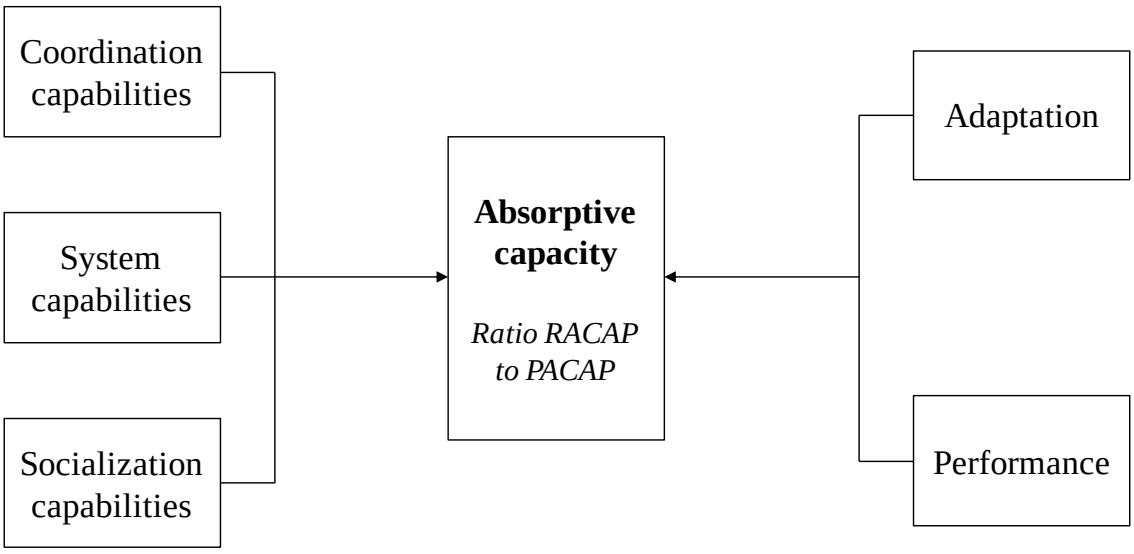
Source: Zahra and George (2002, p. 192)

2.4.3.4. The model of Jansen, Van den Bosch and Volberda (2003)

Jansen et al. (2003) develop a new model on the basis of a model previously proposed by Van den Bosch et al. (1999) and the inclusion of some of the improvements provided by Zahra and George (2002). Three different capabilities –coordination, system and socialization capabilities– are the antecedents of ACAP in this model. On the other hand, ACAP is modelled as an antecedent of the firm's adaptation and performance.

This model also considers the two subsets of absorptive capacity –PACAP and RACAP– proposed by Zahra and George (2002). These authors assess the efficiency factor or the ratio of RACAP to PACAP, which supposes the development of a new tool that empirically tests this model. The ratio RACAP to PACACP is formulated as follows: ratio = RACAP/(PACAP+RACAP) and its value fluctuates between 0 an 1. If the ratio tends to 0, it means that the firm is oriented towards the development of its PACAP, whereas if the ratio tends to 1, this means that the firm is focused on developing its RACAP. If this ratio is around 0.5, this means that the firm's orientation towards potential and realized absorptive capacity is balanced.

Figure 7. The model of Jansen, Van den Bosch and Volberda



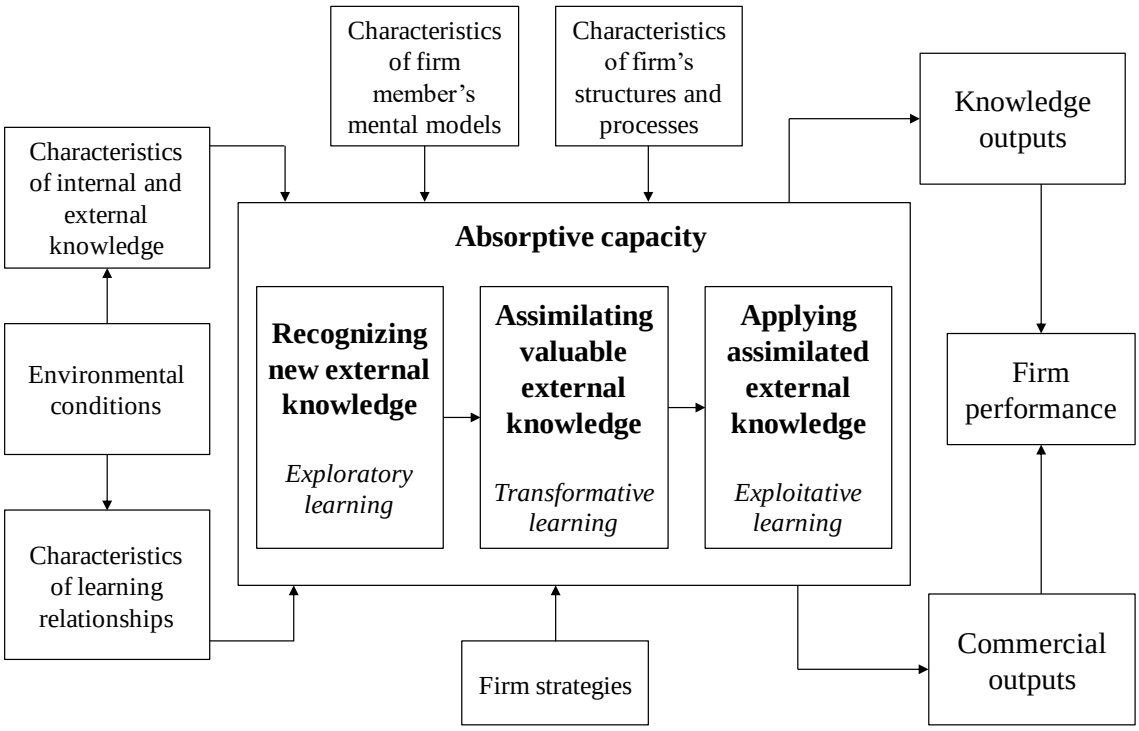
Source: Own elaboration on the basis of Jansen et al. (2003, p. 27)

2.4.3.5. The model of Lane, Koka and Pathak (2006)

The model proposed by Lane, Koka and Pathak (2006) encompasses four distinct components. The central part involves the firm's absorptive capacity. Within this model, ACAP is defined by means of a sequential process which observes three different mechanisms, which coincide with the three dimensions of ACAP posited by Cohen and Levinthal (1990): recognizing and understanding new external knowledge –by means of exploratory learning–, assimilating the valuable external knowledge –through transformative learning–, and applying the assimilated external knowledge –by virtue of exploitative learning–.

On the left side of the model there can be observed the partially or totally external antecedents of ACAP –characteristics of internal and external knowledge, environmental conditions and the characteristics of learning relationships–. Above and below the absorptive capacity section of the model there are the internal antecedents of ACAP –characteristics of firm member's mental models as well as the firm's strategies, structures and processes. Finally, on the right side of the model there can be found the outcomes of ACAP –Knowledge outputs, firm performance and commercial outputs–.

Figure 8. The model of Lane, Koka and Pathak



Source: Own elaboration on the basis of Lane et al. (2006, p. 856)

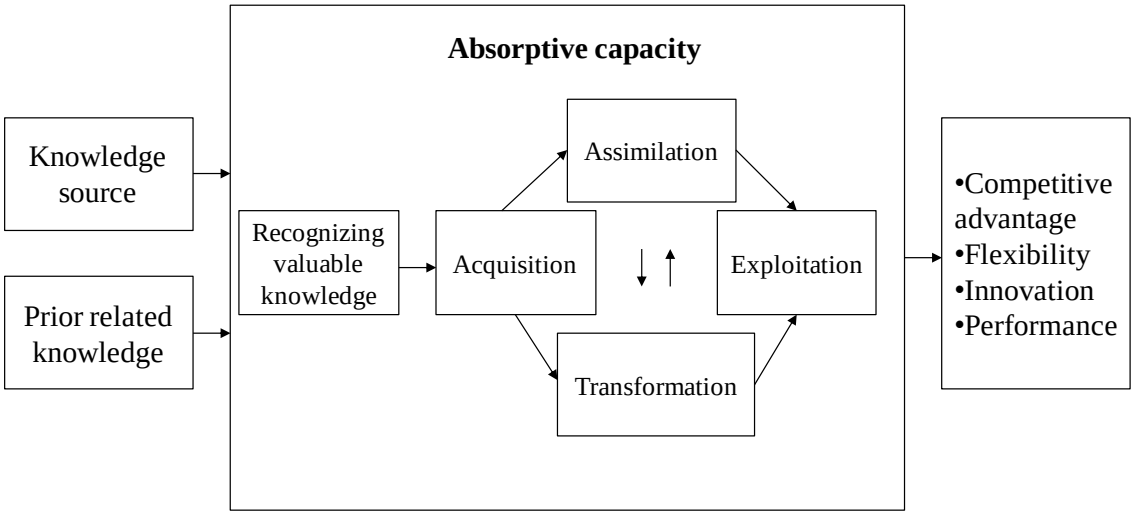
2.4.3.6. The model of Todorova and Durisin (2007)

Todorova and Durisin (2007) complement the model developed by Zahra and George (2002), proposing several improvements. Firstly, they include the recognition of valuable knowledge –the first dimension of ACAP proposed by Cohen and Levinthal (1990)– as antecedent to the four dimensions that shape absorptive capacity within Zahra and George's (2002) model. Secondly, these authors treat the knowledge assimilation and transformation dimensions as alternatives instead of sequentially, depending if the acquired external knowledge is very similar to the firm's related knowledge or not respectively.

This model posits the firm's knowledge source and prior related knowledge as antecedents of ACAP. On the other hand, the following outcomes of ACAP are hypothesized: competitive advantage attainment and the firm's flexibility, innovativeness and performance.

This model supposes and enhancement to the one proposed by Zahra and George (2002). Both models view absorptive capacity as an intermediate variable which gives place to interesting outcomes. Nevertheless, both models are uniquely theoretically developed and none of them attempted to empirically test their hypotheses.

Figure 9. The model of Todorova and Durisin



Source: Own elaboration on the basis of Todorova and Durisin (2007, p. 776)

2.4.4. Absorptive capacity, innovation and performance.

The constantly changing environment within which organizations are nowadays immersed, has contributed to the escalating rise of interest devoted to knowledge as trustable and long-lasting a competitive advantage source (Kogut and Zander, 1992). In this sense, Cohen and Levinthal (1990) argue that in order to face these environmental pressures, firms ought to not only recognize and assimilate new external knowledge, but also being able to leverage and apply this knowledge to commercial ends. In short, this means that absorptive capacity, if effectively managed, will play an important role in the reach of innovation outcomes and business performance.

There are several studies that posit a relationship between the firm's ACAP and innovation. Fiol (1996) argues that the potential of organizations to generate innovation outcomes is dependent upon the previous accumulation of knowledge that they have absorbed. The emergence of KM has therefore enhanced the reciprocity between

innovation and knowledge in the sense that innovative efforts are a result of the firm's endeavor and investment in knowledge and knowledge workers. Similarly, outcomes from innovation processes in terms of new products and processes contribute to creating new knowledge (Prajogo and Ahmed, 2006). In order to effectively absorb and exploit knowledge, it is crucial to ensure the sharing of relevant knowledge among organizational members (Spender, 1996). This will result in a better comprehension and mutual understanding (Garvin, 1993).

Several studies posit that the ability to effectively exploit external knowledge constitutes a critical factor for the companies interested in achieving innovation outcomes (Cohen and Levinthal, 1990). A company's absorptive capacity performs as the enabler that permits turning knowledge into new products, services or processes to support innovation (Newey and Zahra, 2009; Cepeda-Carrión et al., 2012).

Accordingly with Damanpour and Gopalakrishnan (2001), innovation is nowadays a crucial element while attempting to obtain and sustain competitive advantages. They argue that innovative firms tend to be more adaptable to changes, more flexible and are more able to exploit opportunities than their competitors. Firms that foster an innovative approach are enabled to better deal with the volatility and high dynamism which characterize their environment, and therefore, are able to achieve and sustain long-term competitive advantages. In this vein, following the strategy of proactively embracing innovation contributes to differentiating the firm from its competitors, improving hence its business performance (Jensen, Van den Bosch, and Volberda, 2006; García-Zamora et al., 2013).

2.5. THEORETICAL FOUNDATIONS ON ORGANIZATIONAL LEARNING.

2.5.1. The concept of organizational learning.

Organizations have nowadays to face a social-economic environment characterized by its turbulence, dynamism and globalization, where organizational change is the rule rather than the exception, customers are increasingly more demanding, and competitors multiply. Attending to these circumstances, knowledge represents a key strategic resource to effectively compete (Nonaka and Takeuchi, 1995; Grant, 1996; Teece, 1998). These changes have contributed to attract the interest from both academics as well as from the managerial world on the topic of organizational learning (OL).

Organizational learning capability is a topic which has been approached from several disciplines within the social sciences –economy, management, psychology, sociology, etc.–, contributing hence to create a rich and extensive literature. Although knowledge and learning within organizations were topics that previously harvested an acceptable interest, it was not until the 1980s when a significant number of scientific studies concerning these issues proliferated (Shrivastava, 1983; Fiol and Lyles, 1985; Nonaka, 1988). However, the greatest diffusion and popularization of the term organizational learning came with the publication of the book "The Fifth Discipline" (Senge, 1991), as well as with the edition of a special issue concerning this topic on the Organizational Science Journal, which included studies from widely cited experts on this issue such as Huber (1991), Simon (1991) or March (1991) among others.

Organizational learning can be defined as the process by which new knowledge and insights are developed. This new knowledge is rooted on the organizational members' own expertise and knowledge bases. Therefore, a learning organization can be defined as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights" (Garvin, 1993). Fiol and Lyles (1985) define it as the process of improving actions through better knowledge and understanding. The following table comprises a revision of some of the main definitions of this construct.

Table 4. Main definitions of OL

Authors	Definition
Cyert and March (1963)	Adjustment of the firm's behaviour as a response to the environment's variations.
Shrivastava (1981)	Method through which the firm's knowledge base is developed and disseminated.
Fiol and Lyles (1985)	Process that leads firms to improve their actions, thanks to a wider knowledge and understanding.
Stata (1989)	Learning obtained through understanding, knowledge and shared mental models, which is built on the basis of experience and organizational memory.
Huber (1991)	It occurs if through the information processing –acquisition, distribution, interpretation–, the firm's range of behaviour is modified.
Garvin (1993)	Complex and multidimensional process that links knowledge acquisition with performance improvements.
Nonaka, Takeuchi and Umemoto (1996)	Process through which the knowledge create by others is amplified and incorporated into the firm's knowledge base.
Dixon (1997)	The intentioned utilization of learning processes, at an individual, group and systematic scales, with the aim of transforming the firm according to its objectives.
Bontis, Crossan and Hulland (2002)	A means to assure the correct assimilation of that knowledge which is considered fundamental for value creation and the building of sustainable competitive advantages.
Jiménez-Jiménez and Sanz-Valle (2006)	Process by which knowledge is internally generated or externally acquired, and then is interiorized and disseminated through the firm with the aim of storing it and being able to recall it when necessary.

Source: Own elaboration

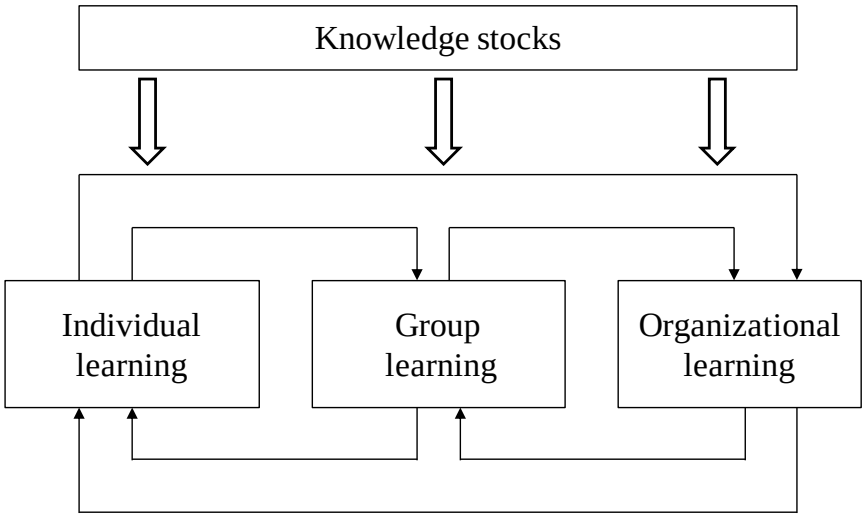
2.5.2. The levels of organizational learning.

The delimitation of the specific dimension within which OL takes place is a relevant aspect to accomplish. Learning within a firm can occur at different levels –individual level, group level and organizational level– (Shrivastava, 1983; Nonaka and Takeuchi, 1995; Crossan et al., 1999).

Some studies sustain that learning can only be an individual process. Hence, they suggest that only individual can learn, denying the existence of this capability in organizations (Simon, 1991; Grant, 1996). Another stream of thought argues that OL is not the sum of the individuals' learning. They sustain that although individual learning is important for OL, it is a necessary but not sufficient condition (Hedberg, 1981; Kim, 1993; Crossan et al., 1999).

Individual learning comprises a set of individual knowledge, cognitive maps and individual competences. Group learning involves in turn a broader set of mental models as well as shared capabilities and techniques that shape group knowledge. On the other hand, individual and group knowledge is embedded into routines, structures, systems, experiences, methods and procedures throughout the firm (Vidal-Salazar, 2009).

Figure 10. Learning dimensions



Source: Own elaboration

In order to fostering OL, firms ought to promote mechanisms that favour the effective dissemination of knowledge within the organization. The social or collective dimension of knowledge and the fostering of knowledge sharing become crucial issues in the attempt of turning into a learning organization.

2.5.3. Types of organizational learning.

There are plenty of ways of classifying OL. According to Guns (1996), there is not a definitive classification. Most of them are essentially similar in nature and only differ in dialectic arguments. The following table comprises four distinct OL typologies which reflect four different ways in which organizations can learn. These four OL typologies are distinct but not incompatible. Therefore, focusing on one single typology, isolating the rest may result in an outright failure. Furthermore, these typologies are embedded or closely linked to other related theories and perspectives.

Table 5. Organizational learning typologies

OL typology		Related theories
Internal learning	Learning from the firm's individuals	Organizational knowledge, social capital
Feedback learning	Learning from environmental reactions	Adaptation
Relational learning	Learning from the experience and insights of partners and competitors	Knowledge sharing, social capital
Empirical learning	Learning through experimenting within the firm	The learning organization

Source: Own elaboration

2.5.4. Organizational learning and competitive advantage.

The consecution and maintaining of competitive advantages is such a big deal which traditionally concerns the firms' CEOs. In this vein, it is understood that those firms that

are capable of storing and developing rare, valuable and difficult to imitate resources and capabilities may obtain a competitive advantage over their competitors (Barney, 1991).

Within the framework of the resources and capabilities theory, organizational knowledge is identified as one of the key resources of the firms. According to Grant (1996), the relevance of this resource is rooted in the role it plays enabling the firm to reach innovation and maintaining competitive advantages. This assertion is in line with an study from Nonaka and Takeuchi (1995), which links knowledge with the firm's innovation and learning capabilities. Therefore, OL, the firm's knowledge, and its effective management increase the company's ability to sustain their competitive advantages.

2.5.5. Relational learning.

Taking into account the eminently social dimension of knowledge and learning, it is appropriate to introduce the concept of relational learning (RL). Nowadays more than ever, firms operate with different partners sharing information. Relational learning can therefore be broadly defined as a joint activity between two or more parties in which information and knowledge are shared. This information is jointly assessed and integrated into a shared memory that changes the likelihood of potential relationship-specific behavior.

Relational learning is defined as a joint activity between the firm and one or more partners – customers, suppliers, other partners, etc.– essentially oriented to the sharing of knowledge and pertinent information (Selnes and Sallis, 2003). This will enable the enhancement of their skills, their knowledge bases and may be translated in performance improvement and organizational success. According to these authors, RL involves three dimensions –information sharing, joint sensemaking of these information, and knowledge integration into the firms' memory–.

2.6. THEORETICAL FOUNDATIONS ON ORGANIZATIONAL CULTURE.

2.6.1. The concept of organizational culture.

The concept of organizational culture (OC) is intuitively easy to understand but difficult to conceptually delimit. Since this concept was introduced into the managerial literature, the definitions of it have multiplied. Schein (1985) defines organizational culture as the shared values, beliefs, and practices of the organizational members. This culture does not only reflect the organization's visible aspects, such as its mission and espoused values, but also the ways in which people act, their expectations of each other and the way they interact with each other (McDermott and O'Dell, 2001). Several studies like those of O'Reilly and Chatman, (1996) or Schein, (1996) agree with the idea that organizational culture is a socially constructed attribute that functions as a kind of "social glue" that binds an organization together. The following table contains some of the most relevant definitions provided for OC.

Table 6. Main definitions of OC

Authors	Definition
Ouchi (1981)	A set of symbols, ceremonies and myths that reveal the underlying values and beliefs of the firm and their employees.
Leal-Millán (1991)	A set of beliefs, expectations and fundamental principles shared by the members of a firm. This generates norms and rules that powerfully configure the behaviour of individuals and groups within the organization.
Schein (1996)	The combination of artefacts, values, beliefs and presumptions that the firm members share concerning the correct behaviour.
Tushman and O'Reilly (1997)	System of shared values that establish what is relevant, and the norms which define the proper attitudes and behaviours within the firm.
Cameron and Quinn (1999)	The combination of the essential values, underlying assumptions, expectations and collective memory of an organization. Culture reveals how the firm performs.

Hofstede (1999)	Collective mental configuration which distinguishes the firm's members from other firms' ones.
Jaskyte (2004)	The extent to which organizational values are shared among employees (cultural consensus)

Source: Own elaboration

2.6.2. Types of organizational culture.

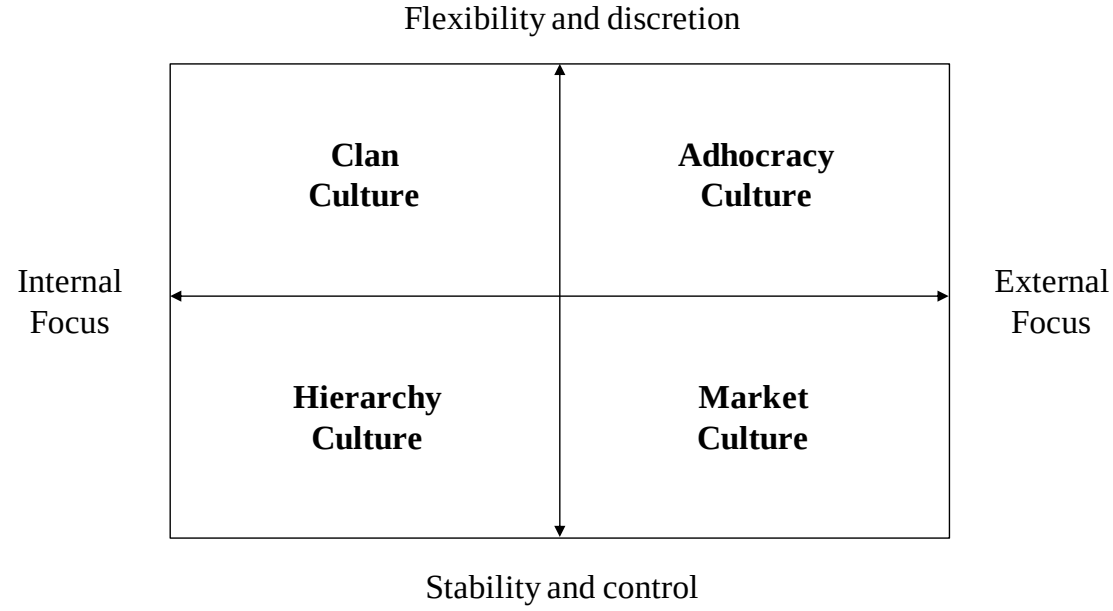
The literature on organizational culture has relied on different classifications or typologies. Among all these typologies there should be highlighted the frameworks proposed by O'Reilly (1989), Hauser (1998), Cameron and Quinn (1999) and Jaskyte (2004). However, we have focused on the model posited by Cameron and Quinn (1999).

Cameron and Quinn (1999) define four cultural typologies: Clan, Adhocracy, Market and Hierarchy. The Competing Values Framework (CVF) comprises two dimensions: the first dimension differentiates between the approach to flexibility, discretion and dynamism and the approach to stability, control and order. The second dimension separates the internal focus from the external focus. Together, these two dimensions shape four quadrants. Each of these quadrants represents a series of opposite, rival or contradictory assumptions between themselves (see Figure 11).

Clan culture is typified as a friendly work environment, almost an extension of family. These organizations are sustained by values such as tradition, loyalty and collaboration. Success is defined in terms of internal climate. Adhocracy culture is characterized for being an entrepreneurship-focused environment where creativity and dynamism are key values. Success is defined in terms of the consecution of innovative, unique and original products and services. Market culture's core values are goals achievement, consistency and competitiveness. Success in these organizations is defined in terms of market share and market penetration. Finally, Hierarchy culture is characterized for being a highly formalized and structured working place. Efficiency, predictability and stability together with a close adherence to rules and regulations are among the key values of these firms (Cameron, 2004).

Nevertheless, organizations are often too complex to be classified within an isolated culture typology. Rather, organizations present a combination of attributes, so that they are not identified completely with a concrete typology but they encompass a miscellany of several. Moreover, there is not such a best culture. In fact, one culture may be more appropriate than others depending on the context.

Figure 11. The Competing Values Framework (CVF)



Source: Own elaboration on the basis of Cameron and Quinn (1999)

2.6.3. Organizational culture and innovation.

Although organizational culture is essential for nurturing ideas and serves as the foundation of a firm (Senge, 1991), innovativeness often requires the existence and tolerance of changes in corporate culture (Bures, 2003). In the pursue of innovation, organizations should assess how their organizational culture can be used in order to promote innovativeness and creative skills. It has been often sustained that culture drives innovation. There are some good examples of how distinctive organizational cultures have driven successful innovations (e.g. Apple; Samsung; 3M). Furthermore, all these firms seek innovation, but they do it on the basis of distinct cultural focuses.

The firm's specific culture is a key driver of innovation. Organizational culture can both favor or hinder innovativeness. The literature offers strong evidence related to the positive

relationship between organizational culture and the firm's innovativeness (Deshpande et al., 1993; Hernández-Mogollón et al., 2010). A firm which really intends to be innovative must have an organizational culture that strongly allows and supports innovation (Santos-Vijande and Alvarez-Gonzalez, 2007). The main premise is that culture plays a key role in making firms able to achieve speed and flexibility in the innovation process.

Focusing on the first dimension of the Cameron and Quinn (1999) CVF, it is sustained that a firm with a flexible organizational culture will be more innovation-oriented than a firm with a stable culture. Hence, flexibility acts as a facilitating agent, enabling innovation, while stability hinders it, performing as a barrier (Jaskyte, 2004). On the other hand, if we attend to the CVF second dimension, Deshpande et al. (1993) argues that internally-oriented cultures may provoke a lack of attention to the market changes and needs, which in turn, constitutes an essential issue in innovation processes. An organization with an externally-oriented culture will find it easier to obtain key external information, which may be helpful to develop and sustain an innovative capability. Therefore, the culture typology expected to foster innovation the most is Adhocracy culture (flexibility and externally oriented), whereas Hierarchy culture (stability and internally oriented) will be the least conducive to innovation.

2.6.4. Cultural barriers.

Sometimes, firms ought to come across several barriers to knowledge sharing, learning and fostering innovation. These barriers can be both of internal and external nature. Assink (2006) assesses the existence of a series of inhibitors (barriers) which actively hinder innovativeness. Some of the barriers identified by this author involve the organization's culture. These obstacles are known as cultural barriers (CB)

Within the diverse set of cultural obstacles to organizational learning and innovation there should be underlined the firm's conscious efforts of risks avoidance, the existence of a strong hierarchy and high levels of bureaucracy, the rejection of innovation and the poor management of the innovative process, misunderstandings between staff and senior managers, and the prevalence of a top-down approach that undervalues employees.

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CHAPTER 3

THE MODERATING ROLE OF RELATIONAL LEARNING ON THE PACAP–RACAP LINK. A STUDY IN THE SPANISH AUTOMOTIVE COMPONENTS MANUFACTURING SECTOR

CHAPTER 3: "THE MODERATING ROLE OF RELATIONAL LEARNING ON THE PACAP–RACAP LINK. A STUDY IN THE SPANISH AUTOMOTIVE COMPONENTS MANUFACTURING SECTOR".

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CHAPTER 4

FROM POTENTIAL ABSORPTIVE CAPACITY TO INNOVATION OUTCOMES IN PROJECT TEAMS: THE CONDITIONAL MEDIATING ROLE OF THE REALIZED ABSORPTIVE CAPACITY IN A RELATIONAL LEARNING CONTEXT

CHAPTER 4: “FROM POTENTIAL ABSORPTIVE CAPACITY TO INNOVATION OUTCOMES IN PROJECT TEAMS: THE CONDITIONAL MEDIATING ROLE OF THE REALIZED ABSORPTIVE CAPACITY IN A RELATIONAL LEARNING CONTEXT”.

***Contenido embargado por cesión de derechos a la editorial**

CHAPTER 5

ABSORPTIVE CAPACITY, INNOVATION AND CULTURAL BARRIERS: A CONDITIONAL MEDIATION MODEL

CHAPTER 5: “ABSORPTIVE CAPACITY, INNOVATION AND CULTURAL BARRIERS: A CONDITIONAL MEDIATION MODEL”.

***Contenido embargado por cesión de derechos a la editorial**

CHAPTER 6

OVERALL CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE LINES OF RESEARCH

CHAPTER 6: "OVERALL CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE LINES OF RESEARCH".

6.1. INTRODUCTION

This doctoral dissertation started by recognizing the high relevance that several aspects such as knowledge management, absorptive capacity, and the organization's commitment and orientation towards continuous learning and innovation have in order to effectively compete within the currently uncertain, turbulent and constantly changing environment. Within the introduction chapter, it is highlighted the role that these capabilities perform as strategic tools that may lead to business performance enhancement and the attainment of sustainable competitive advantages.

The core of this research is focused on the disentanglement of the ties between the firm's absorptive capacity –distinguishing between its two subsets, PACAP and RACAP– and its innovation outcomes. Furthermore, the moderating effects performed upon these ties by constructs such as relational learning and cultural barriers are assessed in depth.

Within the introductory chapter, the main purpose of this thesis is settled. This main objective deals with the consecution of a deeper understanding of the roles played by the firm's absorptive capacity and innovation capability in the search of long lasting competitive advantages that may, in turn, lead to an enhancement of organizational overall performance.

This study broadly approaches this purpose by trying to answer the following research questions:

- Question 1: Is PACAP a truly antecedent of RACAP?
- Question 2: Is absorptive capacity positively associated to the firm's innovation outcomes?

- Question 3: Does the firm's relational learning capability reinforce the relationship between absorptive capacity and innovation outcomes?
- Question 4: Do the firm's cultural barriers hinder the relationship between absorptive capacity and innovation outcomes?

Within the exposure and development of the three central chapters, together with the theoretical background gathered in chapter 2 we have intended to answer the main research questions and to empirically test the relationships hypothesized. Concerning the first research question, it is approached by the three papers which conform chapters 3, 4 and 5. The second question is assessed at chapters 4 and 5. Chapter 4 assessed the third research question. Finally, chapter 5 assessed the fourth research question.

Next, some general conclusions are extracted from what is pointed out on the previous chapters. Additionally several managerial and practical implications are posited in this chapter as well as it highlights the work's theoretical and empirical limitations and the future lines of research envisioned.

6.2. OVERALL CONCLUSIONS

Based on the prior related literature (Cohen and Levinthal, 1990; Zahra and George, 2002; Nemanich et al., 2010; Bartsch et al., 2013), this work develops a research model that links the firm's knowledge absorptive capacity in its two dimensions –potential or PACAP, and realized or RACAP–, with the outcomes and results derived from its innovation endeavor and capability. In addition, we hypothesize and test the moderating effects of the firm's relational learning capability and cultural barriers on this tie.

The most widely cited and well-known research model in this field is the one proposed by Zahra and George (2002), in which theorized that the relationship between PACAP and RACAP is moderated by a set social integration mechanisms. Our model hence extends this idea by focusing on the moderating effect of relational learning in the relationship between the two subsets or dimensions of ACAP, identifying external contexts and potential relational capabilities that can act as catalysts for these relationships.

After testing our hypothesis, the results reveal that, in short, there is not a significant direct relationship between PACAP and IO, as we might expect from the prior literature review. The literature indicates that PACAP and RACAP have different but complementary roles while developing their competences (i.e. , innovation) and therefore, both contribute to the achievement of competitive advantage (Zahra and George, 2002). Our analysis suggests that PACAP has an important influence on RACAP, which is in turn moderated by relational learning activities or mechanisms, such as: the exchange of information on experiences of success or failure related to the products and services, the establishment of project teams for the resolution of operational problems arising from the relationship with the distinct stakeholders, the promotion of meetings or face-to-face reunions to strengthen contact and personal relations with others, etc. Consequently, organizations ought to get high levels of RL in order to cover the gap of knowledge between PACAP and RACAP and indirectly contribute to the improvement of the innovation outcomes.

Our study suggests that only those firms or project teams whose PACAP levels lead to RACAP aggrandizement will contribute to improving the innovative performance. In other words, we argue that fostering and developing the firm's capacity to acquire and assimilate knowledge does not by itself necessarily lead to better innovation outcomes and more innovative organizations. Nevertheless, still having been proved the mediating role that RACAP plays on the PACAP-IO link, this relation is determined by the levels of relational learning reached. In fact, the present study shows that this indirect relationship will be positive and significant when RL levels are medium to high. However, those organizations with lower levels of RL will see this indirect effect of PACAP on IO reduced, to the extent that this relationship even becomes non-significant. Such as we hypothesize, relational learning moderates (reinforcing) the passage from the potential absorptive capacity to the realized absorptive capacity.

Our findings are also consistent with the literature on innovation. As it was established in our assumptions, the combination of potential and realized absorptive capacity has a positive effect on the innovative capacity of the firms. In other words, through the acquisition and assimilation of external knowledge and its subsequent transformation into new knowledge, firms are able to generate new ideas that in turn may lead to innovations.

These findings contribute to confirm the importance of the role played by relational learning activities when it comes to reinforcing the whole process of knowledge creation within organizations. This implies an essential aspect for the development of innovations. Our results support the classical theoretical literature in the field of knowledge management and its links with absorptive capacity and innovative capacity (Cohen and Levinthal, 1990), and are in part consistent with previous empirical studies (Baker and Sinkula, 1999; Harrington and Guimarães, 2005).

On the other hand this thesis extends previous studies by introducing and assessing the phenomenon of cultural barriers. Zahra and George (2002) posited that social integration mechanisms contribute to lower or reduce the existing barriers to knowledge sharing, instead increasing the efficiency of assimilation and transformation capabilities. This work shows that cultural barriers often contribute to hinder effective KM and decrease the mechanisms inherent to ACAP. The firm's cultural barriers are related with language, conflict and risk avoidance, bureaucracy and hierarchy, incoherent paradigms, and the excessive prevalence of a top-down approach that underestimates the lower levels of the organization.

Once again, despite finding support for this indirect effect or mediating role that RACAP plays on the PACAP-IO link, this relationship is conditioned by cultural barriers. Certainly, our study reveals that this indirect relationship is positive and significant when the CB levels are low. On the other hand, this mediating relationship may even disappear when CB levels are medium to high. In this vein, organizations with higher levels of CB observe how the indirect effect of PACAP on IO decreases. In line with the hypotheses, cultural barriers moderate (decreasing) the PACAP–RACAP and RACAP–IO links. Furthermore, the present study reveals the existence of a strong negative direct relationship between CB and IO.

6.3. THEORETICAL AND PRACTICAL IMPLICATIONS

As it has been previously highlighted, the automotive components manufacturing sector in Spain constitutes a great example of innovation-oriented and knowledge-intensive industry. These firms are required to be constantly aware of the changes, needs, and

requirements demanded by its main customers, the automobile manufacturers. The acquisition and exchange of pertinent information and knowledge and its further absorption within the firm, becomes a fundamental step in the path of enhancing performance. Hence, it can be argued that the organizations that yield higher performance are those which continually seek the acquisition and absorption of new external knowledge from its partners.

This study provides some interesting contributions to the literature in the field of management. In the first place, this research provides evidence to support the theoretical model based on an empirical test. Although the literature on the subject of innovation points out that the firm's absorptive capacity acts as a catalyst of organizational innovativeness (Fosfuri and Tribó, 2008; Murovec and Prodan, 2009), the literature on innovation lacks from enough empirical evidence to support the above mentioned affirmation. Second, the procedure followed in our analysis has included a deep and intense theoretical review as well as an empirical study on a particular typology of knowledge-intensive organizations, such as those belonging to the manufacturing industry of equipments and components for the automotive sector in Spain. This methodological approach helps to overcome the scarcity of empirical studies in the fields of absorptive capacity, relational learning and cultural barriers to innovation, where the measurements of variables tend to be scarce, and are often based on mere proxies. Finally, the present research has focused in an organizational vision of absorptive capacity and, consequently, at the collective level. Nevertheless, there are complementary visions focused at the individual level. For example, Nemanich et al. (2010) extended this field of study, suggesting that the capabilities of assessing and assimilating external knowledge are highly cognitive in nature, and therefore depend on the individual's skills. Both capabilities are based on intuition and expert knowledge, including pattern recognition and associative learning abilities, which links with the ability to interpret the meaning of such knowledge for oneself.

During their daily activity, organizations often take advantage of intuition and interpretation processes. In spite of the fact that intuition is a learning process that tends to be critical to the decision-making at the firm level, it does not cease to be essentially an individual capacity. In the case of interpretation capacity at the individual level, it consists in the use of cognitive maps with the objective of developing knowledge

connections (Nemanich et al., 2010). However, not all the firm members have the same weight in terms of their contribution to the firm's absorptive capacity. Individuals' intuition and interpretation abilities will configure specific knowledge that will be shared and widely spreaded among the group or the company's members. This is usually conducted through a socialization process (Nonaka, 1994). This socialization process comprises a wide set of social interpretation mechanisms and procedures. This is also associated with exteriorization, another of the phases that Nonaka identified in his well-known "SECI model". Exteriorization involves the conversion or the passage of a more genuinely individual, implicit or tacit knowledge towards a type of knowledge which is more easily communicable or transmissible between the members of the organization. In synthesis, absorptive capacity is the final stage of a set of relational phenomena. In order to assimilate this individual knowledge in a collective manner, apart from the individual assimilation, it is necessary to train the company on a set of skills. In this sense, the external knowledge absorbed individually by different members of the firm must be integrated and shared with the rest of the team through a process of social interpretation (Argote et al., 2000; Nemanich et al., 2010). This is consistent with our theoretical vision and our results concerning the moderating role of relational learning on the PACAP-RACAP tie.

The implications for senior management are clear: this study provides a theoretical and empirical basis for the subsequent analysis of the innovative activity of the firms within the manufacturing industry of automotive components. In order to successfully compete within this sector, characterized for being a knowledge-intensive industry, it is important for firms to implement mechanisms that contribute to pass from potential to realized absorptive capacity, allowing them to leverage the new knowledge acquired, to take advantage of it, and to generate new knowledge in combination with the prior knowledge it already possessed in its repository. It has been demonstrated the important enabling role played by relational learning in this task. Therefore, these companies must decisively encourage and engage in activities linked with information transmission and exchange, shared vision building and knowledge integration. Moreover, managers should implement strategies that help to reduce cultural barriers. Hence, any policy that aims to reduce CB enables the promotion and absorption of new knowledge, paving the way for innovation.

In conclusion, companies should promote the complementarity of PACAP and RACAP, as well as strengthen the role of relational learning in order to amplify the indirect influence of PACAP on IO. Additionally, the managers need to achieve low levels of cultural barriers to shorten the knowledge gap between PACAP and RACAP and thus enhance innovation outcomes.

6.4. LIMITATIONS AND FUTURE LINES OF RESEARCH

Every empirical study contains a series of limitations which should be considered while assessing and generalizing its results. The present work is not without some limitations which are mentioned below. In addition, there are listed several suggestions about possible future lines of research, which logically, are to a large extent, originated or motivated by these limitations.

In first place, concerning the methodological approach, it should be highlighted that while we provide evidence of causality, causality in itself has not been tested. According to Fornell (1982), the causal relationships between variables can not be proven, as they are always assumed by the researcher. Second, this research is based on the perceptions of the surveyed individuals and to elicit or obtain these insights we have only employed one single method. Finally, we have carried out this study in a particular geographical context (Spain) and an economic sector (manufacturing of equipment and components for the automotive industry). For this reasons, we must be careful about generalizing these results and conclusions to other scenarios or different contexts. It might be interesting to replicate this study within a different geographical or economic context, which can constitute a possibility of extending our research to different scenarios and observe the differences and similarities that may appear.

On the other hand, with regard to the type of study carried out, another limitation that should be noticed is the cross-sectional nature of the study, specially while the constructs assessed are highly changing and dynamic in nature. A future research line could contemplate conducting a longitudinal study which may allow us to ratify the relationships and hypotheses established within the present work.

On the basis of the positive results reached by the research model assessed, we consider it could be interesting to carry out a case study. In this sense, we would be able to provide qualitative complementary information and particularities, which may in turn enable us to develop a deeper examination and understanding of the proposed relationships.

We also believe that it may be highly interesting to investigate the role of organizational unlearning mechanisms on the passage from PACAP to RACAP, as well as its effect on the firm's innovation outcomes. From our point of view, firms in this industry may benefit from shifting their focus to fostering an unlearning, open, and risk-friendly organizational culture. We think that promoting an unlearning context may increase organizational absorptive capacity and innovativeness. In order to effectively absorb new knowledge and foster innovativeness, organizations ought to implement unlearning strategies that may lead them to forget old routines, obsolete habits, and ways of working that may represent barriers to innovation. This rationale would be consistent with the literature that suggests that unlearning is not only a mechanism to forget old knowledge, but also constitutes a new path for firms to build and develop new knowledge. This constitutes a line of research that we are currently opening and starting to investigate.

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APPENDIX

APPENDIX A.

QUESTIONNAIRE PRESENTATION LETTER

APPENDIX A. QUESTIONNAIRE PRESENTATION LETTER

Estimado Sr./Sra.:

Nos dirigimos a usted con el fin de solicitar su colaboración en el desarrollo de un estudio doctoral sin ánimo de lucro que estamos llevando a cabo sobre la influencia de la capacidad de absorción del conocimiento en la innovación empresarial. Para ello, emplearemos una muestra de empresas pertenecientes a la industria manufacturera de componentes de automoción en España que hemos obtenido de un listado facilitado por Sernauto.

Dado el reducido tamaño de la muestra seleccionada, su colaboración nos resulta verdaderamente precisa para llevar a cabo nuestra investigación. Por este motivo le estaríamos enormemente agradecidos si le fuera posible completar el cuestionario que le adjuntamos y remitírnoslo a la siguiente dirección de correo electrónico: **alleal@uloyola.es**.

Le garantizamos que el trato de la información que nos facilite será totalmente confidencial. Como comprobará, a fin de garantizar el absoluto anonimato, no se requiere ninguna información que identifique su identidad personal ni la de su entidad. El tratamiento estadístico de los datos será siempre a nivel agregado, en ningún caso se procederá a estudios individualizados de su firma.

Si usted lo desea, a cambio de su colaboración estaremos encantados de remitirle los resultados de la investigación. Muchas gracias de antemano por su colaboración.

Atentamente,

Antonio Luis Leal Rodríguez,

UNIVERSIDAD LOYOLA ANDALUCÍA

C/ Energía Solar, 1,41014 Sevilla

Tel. +34 955 641 600 (Ext. 498)

alleal@uloyola.es

APPENDIX B.

QUESTIONNAIRE ITEMS

APPENDIX B. QUESTIONNAIRE ITEMS

ENCUESTA SOBRE ABSORCIÓN DEL CONOCIMIENTO, APRENDIZAJE RELACIONAL Y BARRERAS CULTURALES

INSTRUCCIONES

- *Por favor, conteste todas las preguntas.*
- *No existen respuestas correctas, sólo queremos conocer su opinión sobre las cuestiones planteadas.*
- *Si de alguna de las preguntas no está totalmente seguro de la respuesta, no importa, nos interesa su estimación.*
- *La mayoría de las preguntas consiste en responder entre 1 (no se está de acuerdo con la afirmación) a 7 (se está totalmente de acuerdo con la afirmación). El resto de valores gradúan estos dos extremos. Marque con una cruz o con un círculo el valor más apropiado en cada caso.*
- *Una vez contestada la encuesta, simplemente introdúzcala en el sobre que se le adjunta y envíela por correo, no necesita sello.*
- *Si tiene alguna duda en cualquier aspecto, no dude en contactar con nosotros.*

P1 (PACAP) **En mi organización...**	1	2	3	4	5	6	7
Los equipos de proyecto se relacionan con la alta dirección para adquirir nuevos conocimientos							
Los miembros de un equipo de proyecto visitan con regularidad otras unidades o equipos de proyecto							
Se recoge información con medios informales (comidas con amigos de otros equipos de proyecto, charlas con compañeros de nuestra oficina,…)							
No se visitan otros equipos de proyecto							

Es habitual organizar reuniones especiales con clientes, suministradores o terceros para adquirir nuevos conocimientos							
Los miembros de equipos de proyecto se reúnen regularmente con profesionales externos como asesores, gestores o consultores							
Somos muy lentos en identificar cambios en el mercado (competencia, leyes, cambios en demografía, …)							
Se identifican rápidamente las nuevas oportunidades que surgen para servir a los clientes							
Analizamos e interpretamos rápidamente los cambios en los gustos de nuestros clientes							
P2 (RACAP) **En mi organización...**	1	2	3	4	5	6	7
Nuestro equipo de proyecto considera habitualmente las consecuencias de los cambios en los mercados en términos de las nuevas formas de ofrecer los productos o servicios							
Los miembros de nuestro equipo de proyecto conservan y archivan el nuevo conocimiento adquirido para un uso futuro							
Nuestro equipo de proyecto entiende el valor del nuevo conocimiento adquirido sobre el ya existente							
Los miembros de nuestro equipo de proyecto rara vez comparten entre sí experiencias sobre el trabajo							
Raramente se aprovechan las oportunidades que surgen del nuevo conocimiento adquirido							
Nos reunimos periódicamente para discutir acerca de las nuevas tendencias del mercado y sobre el desarrollo de nuevos servicios							
Se conocen claramente cómo deben ser mejoradas las actividades de la empresa y de nuestra unidad							
Las quejas de los clientes caen en saco roto							
Existe una clara división de roles y responsabilidades							
Se estudia constantemente cómo explotar el conocimiento de la mejor forma posible							
Existen dificultades a la hora de desarrollar nuevos servicios							
Los empleados tienen un leguaje común respecto a los productos/servicios							
P3 (RL) ISH **Nuestra organización...**	1	2	3	4	5	6	7
Comparte información sobre experiencias de éxito y fracaso relacionadas con productos/servicios intercambiados con nuestros socios, proveedores y clientes							

Comparte información relativa a los cambios en las necesidades, preferencias y comportamiento de nuestros consumidores finales o usuarios							
Comparte información relativa a los cambios estructurales en el mercado, tales como fusiones, adquisiciones, alianzas, etc.							
Comparte información relativa a los cambios en la tecnología de los productos/servicios							
Comparte información tan pronto como aparecen problemas imprevistos							
Comparte información relativa a los cambios en las estrategias y políticas de la empresa							
Comparte información sensible, tal como la relativa al desempeño financiero o el *know-how*							
P4 (RL) JSM **En mi organización...**	1	2	3	4	5	6	7
Es habitual establecer equipos de trabajo conjunto para resolver problemas operativos derivados de la relación con socios, proveedores y clientes							
Es habitual establecer equipos de trabajo conjunto para analizar y discutir los asuntos estratégicos inherentes a la relación con socios, proveedores y clientes							
La atmósfera en la relación con nuestros socios, proveedores y clientes estimula una discusión productiva que comprenda la diversidad de opiniones							
Hacemos un gran uso de la comunicación cara a cara en nuestras relaciones							
P5 (RL) KI **En mi organización...**	1	2	3	4	5	6	7
Ajustamos frecuentemente nuestra concepción común de las necesidades y comportamientos de los consumidores y usuarios finales							
Ajustamos frecuentemente nuestra concepción común de las tendencias en la tecnología relacionada con nuestro negocio							
Evaluamos frecuentemente y, si es necesario, ajustamos nuestras rutinas en los procesos de pedido y entrega							
Evaluamos frecuentemente y, si es necesario, actualizamos los contratos que formalizan nuestra relación							
Con frecuencia nos reunimos cara a cara para reforzar el contacto personal en nuestra relación							
Evaluamos frecuentemente y, si es necesario, actualizamos información de las relaciones almacenadas en nuestras bases de datos electrónicas							
P6 (CB) **En mi organización...**	1	2	3	4	5	6	7

El lenguaje utilizado en una sección, departamento o equipo de proyecto es ininteligible para los demás							
Se hacen esfuerzos para evitar conflictos, el cambio y correr excesivos riesgos Hay un alto nivel de jerarquía y burocracia administrativa. Los procedimientos y criterios no facilitan el intercambio de información y conocimiento							
Existen diferencias entre las intenciones y propósitos personales y los paradigmas de la dirección (valores, estrategia, misión, visión, etc.), lo que hace difícil expresar y justificar opiniones							
Existe un enfoque top-down que subestima a los niveles bajos y trata a los empleados como receptores pasivos de la información y el conocimiento. La dirección recoge y ordena el contenido de la memoria organizacional como un producto final y luego disemina este contenido entre los diferentes niveles de empleados							
P7 (INOUTC) **En mi organización...**	1	2	3	4	5	6	7
El nivel de novedad (innovación) de los nuevos productos es muy alto							
Usamos las últimas innovaciones tecnológicas en nuestros nuevos productos							
Tenemos una alta velocidad o rapidez en el desarrollo de nuevos productos							
Tenemos un alto número de nuevos productos introducidos en el mercado							
Poseemos una elevadísima competitividad tecnológica en todo lo que hacemos (superior a la de todos nuestros competidores)							
Tenemos una altísima velocidad en la adopción de las últimas innovaciones tecnológicas en nuestros procesos							
La actualidad y novedad de la tecnología utilizada en nuestros procesos es altísima							
Poseemos una altísima tasa de cambio y renovación en nuestros procesos, procedimientos y técnicas							

APPENDIX C.

LIST OF ENTERPRISES BELONGING TO THE SPANISH AUTOMOTIVE COMPONENTS MANUFACTURING SECTOR

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
RODISA , S.L.	ELGOIBAR	GUIPUZCOA
3M ESPAÑA, S.A.	RIVAS VACIAMADRID	MADRID
3RG INDUSTRIAL AUTO, S.L.	YELES	TOLEDO
A. RAYMOND TECNIACERO, S.A.	SANT FRUITOS DE BAGES	BARCELONA
AC TRANS FERIAS INTERNACIONALES	BARCELONA	BARCELONA
ACCIONA FACILITY SERVICES, S.A.	BARCELONA	BARCELONA
ACR - ACCES.Y COMP.PARA AUTOM.Y REFRIGERACION,S.L.	ALZIRA	VALENCIA
ACTIA MULLER ESPAÑA	GETAFE	MADRID
ACUSTICA BEYMA, S.A	MONCADA	VALENCIA
AEROMETAL, S.A.	PARETS DEL VALLES	BARCELONA
AEROQUIP IBERICA,	ALCALA DE HENARES	MADRID
AGERAUTO - SIA INDUSTRIA ACCUMULATORI SPA	VALENCIA	VALENCIA
AIMEN-ASOC.INVESTIG.METALUTRGICA NOROESTE	PORRIÑO	PONTEVEDRA
AIMME-ASOC.INVESTIGACION INDUST.METAL-MECANICA. AF	PATERNA	VALENCIA
AIMPLAS - INSTITUTO TECNOLOGICO DEL PLASTICO	PATERNA	VALENCIA
AIR-FREN, S.L.	ZARAGOZA	ZARAGOZA
AIRE COMPRIMIDO INDUSTRIAL IBERIA SL	PINTO	MADRID
AIRTEX PRODUCTS, S.A.	ZARAGOZA	ZARAGOZA
AKZO NOBEL CAR REFINISHIES SL	BARCELONA	BARCELONA
AL-KO ESPAÑA SAU	UTEBO	ZARAGOZA
AL-KO RECORD, S.A.	ABADIANO	VIZCAYA
ALCASTING LEGUTIANO, SLU (CIE ALCASTING)	LEGUTIANO	ALAVA
ALCAYATAS Y TORNILLERIA SA ALTOSA	BARCELONA	BARCELONA
ALCORTA FORGIN GROUP S.A.	ELGOIBAR	GUIPUZCOA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
ALFA DECO SAU (CIE ALFA DECO)	ELGETA	GUIPUZCOA
ALFA LAN, S.A.	EIBAR	GUIPUZCOA
ALFOMBRAS AUTOMOCION, S.L.- ALFAUTO	VILLENA	ALICANTE
ALKAR AUTOMOTIVE, S.A.	AMOREBIETA	VIZCAYA
ALUDEC S.A.	VIGO	PONTEVEDRA
ALUMBRADO TECNICO	ARRE	NAVARRA
ALUMINIO Y ALEACIONES, S.A.	ZARAGOZA	ZARAGOZA
ALURECY SA (CIE AUTOMOTIVE)	OROZKO	VIZCAYA
AMADEO MARTI CARBONELL, S.A.	NULES	CASTELLON
AMES, S.A.	SANT FELIU DE LLOBREGAT	BARCELONA
ANGLI INDUSTRIAS, S.A.	CALDES DE MONTBUI	BARCELONA
ANVIS AUTOMOTIVE SPAIN, S.A.U.	SORIA	SORIA
APPLUS+MATERIALES Y PROCESOS INDUSTRIALES	BELLATERRA	BARCELONA
ARALUCE (GESTAMP)	IGORRE	VIZCAYA
ARCELORMITAL DISTRIBUCION	LUGO DE LLANERA	ASTURIAS
ARCELORMITTAL FCE SPAIN SL	MADRID	MADRID
ARIÑO DUGLASS, S.A.	LA PUEBLA DE ALFINDEN	ZARAGOZA
ARTECA CAUCHO-METAL, S.A.	VILLABONA	GUIPUZCOA
ARTUR VIVES, S.A.	VALLS	TARRAGONA
AS, S.L.	BERIAIN	NAVARRA
ASICRO, S.L.	VALENCIA	VALENCIA
ASIENTOS DE CASTILLA Y LEON,S.A. (FAURECIA)	VALLADOLID	VALLADOLID
ASIENTOS DE GALICIA, S.L (FAURECIA)	VIGO	PONTEVEDRA
ASIENTOS DEL NORTE, S.A. (FAURECIA)	VITORIA	ALAVA
ASISTENCIA TECNICA INDUSTRIAL, S.A.E.- ATISAE	TRES CANTOS	MADRID
ASOCIACION ESPAÑOLA PARA LA CALIDAD - AEC	MADRID	MADRID
ASUVESA MAQUINARIA SL	LEON	LEON
AUNDE, S.A.	SANT CELONI	BARCELONA
AUTO JUNTAS, S.A. UNIPERSONAL (AJUSA)	ALBACETE	ALBACETE

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
AUTO SPOILER-ENRIQUE AGUILAR, S.A.	VALENCIA	VALENCIA
AUTOFLEX KNOTT IBERICA, S.L	GUARNIZO	CANTABRIA
AUTOLIV KLE, S.A.U.	GRANOLLERS	BARCELONA
AUTOLIV-BKI, S.A.	LA POBLA DE VALLBONA	VALENCIA
AUTOMOCION ORYX PARTS, S.L.	LA MUELA	ZARAGOZA
AUTOMOTIVE LIGHTING REAR LAMPS ESPAÑA,MANETI MAREL	LLINARS DEL VALLES	BARCELONA
AUTONEUM	TARRASA	BARCELONA
AUTOSIL ESPAÑA, S.A.	COSLADA	MADRID
AUXILIAR DE LA INDUSTRIA MECANICA, S.A. AUXIM	ARGANDA DEL REY	MADRID
AZ ESPAÑA, S.A.	COSLADA	MADRID
BARNICES VALENTINE, S.A.	MONTCADA I REIXACH	BARCELONA
BASF COATINGS, S.A.	GUADALAJARA	GUADALAJARA
BASS POLIURETANOS IBERIA SA	RUBI	BARCELONA
BATZ, S.COOP.	IGORRE	VIZCAYA
BENTELER DISTRIBUCION IBERICA, S. L.	PRAT DE LLOBREGAT, EL	BARCELONA
BENTELER ESPAÑA SA	BURGOS	BURGOS
BENTELER JIT MARTORELL	ABRERA	BARCELONA
BETSAIDE, S.A.L.	ELORRIO	VIZCAYA
BIMAR ACCESORIOS	BENETUSE	VALENCIA
BOLLHOFF, S.A.	ALCOBENDAS	MADRID
BORGERS, S.A.	ALCALA DE HENARES	MADRID
BORGWARNER EMITIONS SYSTEMS SPAIN SL	VIGO	PONTEVEDRA
BOSAL ESPAÑA,S.A.	SAGUNTO	VALENCIA
BOSAL INDUSTRIAL ZARAGOZA, S.A.	PEDROLA	ZARAGOZA
BRALO, S.A.	PINTO	MADRID
BRAU, S.A.	SOSES	LERIDA
BRAVO ENTERPRISES, S.L.	AMPUERO	CANTABRIA
BRENNTAG QUIMICAS, S.A.	DOS HERMANAS	SEVILLA
BRIDGESTONE HISPANIA, S.A.	URBI-BASAURI	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
BROSE, S.A.	SANTA MARGARIDA I ELS MONJOS	BARCELONA
BRUGAROLAS, S.A.	RUBI	BARCELONA
BRUSS JUNTAS TECNICAS S.L., S. EN COMANDITA	DURANGO	VIZCAYA
BUGOBROT, S.L.	GETAFE	MADRID
C 2 M, S.A.	EL PAPIOL	BARCELONA
CABLEADOS Y APARATOS DE TABLERO, S.L. - CAYATA	GETAFE	MADRID
CAD TECH IBERICA, S.A.	GETAFE	MADRID
CALIBRADOS DE PRECISION S.A.	LA LLAGOSTA	BARCELONA
CAMPOS 1925, S.A.	POLINYA	BARCELONA
CAPO FASTO SL	BARCELONA	BARCELONA
CARCOUSTICS ESPAÑA, S.A.	ALCASSER	VALENCIA
CARROCERA CASTROSUA, S.A.	SANTIAGO DE COMPOSTELA	LA CORUÑA
CARROCERIAS AYATS, S.A.	ARBUCIAS	GERONA
CARROCERIAS DAFER, S.A.	PADRONES-PONTEAREAS	PONTEVEDRA
CASALS MATERIAL INDUSTRIAL, S.L.	BARCELONA	BARCELONA
CASCOS MAQUINARIA S.A.	VITORIA	ALAVA
CASPLE, S.A.	BURGOS	BURGOS
CASTING ROS, S.A.	UTRILLAS	TERUEL
CAT ESPAÑA LOGISTICA CARGO, S.L. UNIPERSONAL	MADRID	MADRID
CATELSA-CACERES, S.A.	CÁCERES	CÁCERES
CAUCHO METAL PRODUCTOS II, S.L.	LOGROÑO	LA RIOJA
CELULOSA FABRIL, S.A. -CEFA-	ZARAGOZA	ZARAGOZA
CENTRO TECNOLOGICO BOROA (CIE)	AMOREBIETA	VIZCAYA
CENTRO ZARAGOZA-INSTITUTO REPARACION VEHICULOS	PEDROLA	ZARAGOZA
CEPSA LUBRICANTES, S.A.	MADRID	MADRID
CGR EUROPA, S.L.	MATARO	BARCELONA
CHEMETALL, SDAD. ANMA.	CANOVELLES	BARCELONA
CIDAUT-CENTRO DE INVEST.Y DES. EN TRANSP. Y ENERG.	BOECILLO	VALLADOLID

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
CIE AUTOMOTIVE S.A.-OFICINA (OF. ADMINISTRATIVA)	ABADIÑO	VIZCAYA
CIE AUTOMOTIVE, S.A.	AZCOITIA	GUIPUZCOA
CIE AUTOMOTIVE- SA	BILBAO	VIZCAYA
CIE GALFOR S.A.	ORENSE	ORENSE
CIE LEGAZPI, SA (CIE LEGAZPI)	LEGAZPIA	GUIPUZCOA
CIE MECAUTO SAU (CIE MECAUTO)	VITORIA	ALAVA
CIE UDALBIDE S.A.U	IZURZA	VIZCAYA
CIGÜEÑALES SANZ, S.L.	ZARAGOZA	ZARAGOZA
CIKAUTXO,S.COOP.	BERRIATUA	VIZCAYA
CITEAN - FUNDACION CETENA	NOAIN	NAVARRA
CODIPAUTO, S.L.	EIBAR	GUIPUZCOA
COJALI S.L.	CAMPO DE CRIPTANA	CIUDAD REAL
COMERCIAL DE LA FORJA, S.A. - COMFORSA - PLANTA 2	BARCELONA	BARCELONA
COMERCIAL DE LA FORJA, S.A. - COMFORSA - PLANTA 3	BARCELONA	BARCELONA
COMERCIAL DE LA FORJA, S.A.- COMFORSA	BARCELONA	BARCELONA
COMERCIAL DEL MOTOR, S.A.	MADRID	MADRID
COMERCIAL JOPE, S.AL	EGÜES	NAVARRA
COMPAÑIA GENERAL DE LUBRICANTES, S.A.-COGELSA	SAN ANDRES DE LA BARCA	BARCELONA
COMPONENTES DE AUTOMOCION RECYTEC, SLU (CIE RECYTE	LEGUTIANO	ALAVA
COMPONENTES DE DIRECCIÓN RECYLAN SL (CIE RECYLAN)	ORKOYEN	NAVARRA
COMPONENTES DE VEHICULOS DE GALICIA, S.A.	PORRIÑO	PONTEVEDRA
COMPONENTES METALICOS DEL MEDITERRANEO, S.A.U.	SAN CUGAT DE SESGARRIGUES	BARCELONA
COMPONENTES Y RECAMBIOS SL	ORICAIN	NAVARRA
CONDENSIA QUIMICA, S.A.	BARCELONA	BARCELONA
CONSTRUCCIONES MECANICAS ARAGONESAS, S.A.	ZARAGOZA	ZARAGOZA
CONTINENTAL AUTOMOTIVE SPAIN, S.A.	RUBI	BARCELONA
COOPER-STANDARD AUTOMOTIVE ESPAÑA, S.L.	GETAFE	MADRID

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
COPO FEHRER BARCELONA, S.L.	VILANOVA DEL CAMI	BARCELONA
COPO IBERICA, S.A.	MOS	PONTEVEDRA
COPO ZARAGOZA SAU	FUENTES DE EBRO	ZARAGOZA
CORPORACION GESTAMP	MADRID	MADRID
CORPORACION UPWARDS 98, S.A.	LA MUELA	ZARAGOZA
COVER APLICACIONES TECNICAS	BARCELONA	BARCELONA
CRAMSA INDUSTRIAL, S.L.	HUMANES DE MADRID	MADRID
CROUZET IBERICA, S.A.	BADALONA	BARCELONA
CRUZBER, S.A.	RUTE	CORDOBA
CSA AUTOMOTIV MADRID SL	TORREJON DE ARDOZ	MADRID
CTAG-CENTRO TECNOLOGICO DE AUTOMOCION DE GALICIA	PORRIÑO, O	PONTEVEDRA
CUYMAR SUSPENSION PARTS S.L.	LA MUELA	ZARAGOZA
DALPHI METAL ESPAÑA, S.A.	VIGO	PONTEVEDRA
DANA AUTOMOCION, S.A./ SERVA	ZARAGOZA	ZARAGOZA
DAYCO AUTOMOTIVE-SUCURSAL EN ESPAÑA	SANT FRUITOS	BARCELONA
DAYCO EUROPE AFTERMARKET, S.L.	BARCELONA	BARCELONA
DECOLETAJE Y TORNILLERIA -DYTSA-	BANYOLES	GERONA
DELPHI DIESEL SYSTEMS, S.L. (SOCIEDAD UNIPERSONAL)	SAN CUGAT DEL VALLES	BARCELONA
DELPHI MECATRONIC	SANT VINCENT DELS HORTS	BARCELONA
DELPHI PACKARD ESPAÑA, S.ALU	PAMPLONA	NAVARRA
DENSO BARCELONA,SA.	SANT FRUITOS DE BAGES	BARCELONA
DEUSTO	ZAMUDIO	VIZCAYA
DEUTZ SPAIN	ZAFRA	BADAJOZ
DICOMOL, S.L.	MONTCADA I REIXACH	BARCELONA
DIRNA BERGSTROM, S.L.U.	ALCALA DE HENARES	MADRID
DISTRIBUIDORA ACUMULADORES IMPORTADOS,SA- DAISA-	GIJON	ASTURIAS
DISYUNTOR REGULADOR ASD, S.A.	GETAFE	MADRID
DOGA, S.A.	ABRERA	BARCELONA
DOISTUA, S.A.	GALDACANO	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
DR. FRANZ SCHNEIDER, S.A.-UNIPERSONAL	PICASSENT	VALENCIA
DROGAS VIGO, S.L. - DROVI	PORRIÑO	PONTEVEDRA
DRYASA AUTOMOCION INDUSTRIAL, S.L.	BURGOS	BURGOS
DUPONT IBERICA SL	BARCELONA	BARCELONA
DYNACAST ESPAÑA, S.A.	SANTA PERPETUA DE MOGODA	BARCELONA
DYS,S.L.-DIRECCION Y SUSPENSION, S.L.	EGÜES	NAVARRA
DYTRAM, S.A.	VILADECANS	BARCELONA
ECENARRO S.COOP.	VERGARA	GUIPUZCOA
EDSCHA BURGOS S.A. (GESTAMP)	BURGOS	BURGOS
EDSCHA SANTANDER (GESTAMP)	GUARNIZO	CANTABRIA
EFTEC SYSTEMS S.A.	FIGUERUELAS	ZARAGOZA
EGAÑA 2, S.L. (CIE EGAÑA)	ABADIANO	VIZCAYA
EGRO, S.L.	ORTUELLA	VIZCAYA
ELASTIC BERGER, S.A.	TARRASA	BARCELONA
ELAY INDUSTRIAL, S.A.	ANZUOLA	GUIPUZCOA
ELAY, S.L	ANZUOLA	GUIPUZCOA
ELECTRO AUTO, S.A.	COSLADA	MADRID
ELECTRO CRISOL METAL, S.A. (ECRIMESA)	SANTANDER	CANTABRIA
ELECTROMECANICA CORMAR, S.A.	LLINARS DEL VALLES	BARCELONA
ELECTRONICA DABEL, S.A. (ELEDASA)	CORBERA DE LLOBREGAT	BARCELONA
ELRINGKLINGER, S. A.	REUS	TARRAGONA
EMAR MANUFACTURAS METALICAS, S. A.	LOGROÑO	LA RIOJA
EMBEGAS, S. COOP.	VILLATUERTA	NAVARRA
ENGANCHES Y REMOLQUES ARAGON, S.L.	ZARAGOZA	ZARAGOZA
ENGINE POWER COMPONENTS GROUP EUROPE, S.L.-EPCGE	EIBAR	GUIPUZCOA
EQUAL, S.A.	VALDEMORO	MADRID
EQUIPOS DE TRANSMISIÓN S.A	VITORIA	ALAVA
ERMA, S.L.	PORRIÑO	PONTEVEDRA
ERSA-PARTS FILTER, S.L.	SANT PERE DE RIBES	BARCELONA
ESMEBAGES, S.L.U.	SANTPEDOR	BARCELONA
ESPECIALIDADES ELECTRICAS LAUSAN ,S.A.	BILBAO	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
ESPECIALIDADES ELECTRONICAS RIZOPLAST, S.L.	MATARÓ	BARCELONA
ESPECIALITATS ELECTRIQUES ESCUBEDO, S.A.	RIUDELLOTS DE LA CREU	GIRONA
ESPYTES, S.A.	OÑATE	GUIPUZCOA
ESTAMPACIONES FOGA, S.A.	SANT FELIU DE LLOBREGAT	BARCELONA
ESTAMPACIONES GIPUZKOA, S.A.	AIA	GUIPUZCOA
ESTAMPACIONES IRU, S.L.	ABADIANO	VIZCAYA
ESTAMPACIONES MAYO, S.A.	MUTILVA ALTA	NAVARRA
ESTAMPACIONES METALICAS EGUI, S.A.	ERMUA	VIZCAYA
ESTAMPACIONES METALICAS Y TRANSFORMADOS INDUSTRIAL	SANT ANDRES DE LA BARCA	BARCELONA
ESTAMPACIONES MODERNAS, S.L.	ZARAGOZA	ZARAGOZA
ESTAMPACIONES NAVARRA, S.A. -ESNASA-	BERIAIN	NAVARRA
ESTAMPACIONES RUBI, S. A.	VITORIA	ALAVA
EUROALAGON SERVICIOS, S.L.	ALAGON	ZARAGOZA
EUROCAUCHOS CANA S.L.	ORCOYEN	NAVARRA
EUROFREN SYSTEMS, S.L.U.	MULTIVA	NAVARRA
EUROPEA DE FRICCION, S.A. IBERBRAKES	MADRID	MADRID
EXIDE TECHNOLOGIES, S.L.U.	AZUQUECA DE HENARES	GUADALAJARA
EXTENDA-AGENCIA ANDALUZA DE PROMOCION EXTERIOR S.A	SEVILLA	SEVILLA
FABRICACION ASIENTOS VEHICULOS INDUSTRIALES,S.A.	MARTORELLAS	BARCELONA
FAE-FRANCISCO ALBERO, S.A.	HOSPITALET DE LLOBREGAT,L'	BARCELONA
FAGOR EDERLAN TAFALLA, S. COOP.	TAFALLA	NAVARRA
FAGOR EDERLAN,S.COOP.LTDA.(PLANTA 2-SUSPENSION)	ESCORIAZA	GUIPUZCOA
FAGOR EDERLAN,S.COOP.LTDA.(PLANTA 3-TRANSMISION)	ESCORIAZA	GUIPUZCOA
FAGOR EDERLAN,S.COOP.LTDA.(PLANTA 4-FRENO)	ESCORIAZA	GUIPUZCOA
FAGOR-EDERLAN, S.COOP.LTDA.(PLANTA 1 - MOTOR)	ESCORIAZA	GUIPUZCOA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
FAIST INSONITE SA	TARRASA	BARCELONA
FARE, S.A.	SANTA PERPETUA DE MOGODA	BARCELONA
FAURECIA	ORCOYEN	NAVARRA
FAURECIA ASIENTOS AUTOMOVILES ESPAÑA, S.A.	MADRID	MADRID
FAURECIA AUTOMOTIVE ESPAÑA, S.A.	MADRID	MADRID
FAURECIA AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
FAURECIA AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
FAURECIA AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
FAURECIA AUTOMOTIVE EXTERIORS ESPAÑA SAU	SANT ANDRES DE LA BARCA	BARCELONA
FAURECIA INTERIOR SYSTEMS ESPAÑA S.A.	PORRIÑO	PONTEVEDRA
FAURECIA INTERIOR SYSTEMS ESPAÑA, S.A.	QUART DE POBLET	VALENCIA
FAURECIA INTERIOR SYSTEMS SALC ESPAÑA, S.L.	QUART DE POBLET	VALENCIA
FAURECIA INTERIOR SYSTEMS SALC ESPAÑA, S.L.	QUART DE POBLET	VALENCIA
FAURECIA MADRID JIT (VILLAVERDE)	MADRID	MADRID
FAURECIA SISTEMAS DE ESCAPE ESPAÑA, S.A.	VIGO	VIGO
FAURECIA SISTEMAS DE ESCAPE ESPAÑA, S.A.	MADRID	MADRID
FAURECIA SISTEMAS DE ESCAPE ESPAÑA, S.A.	MADRID	MADRID
FEDERAL MOGUL AUTOMOTIVE IBERICA, S.A.	BARCELONA	BARCELONA
FEDERAL SIGNAL VAMA, S.A.U	VILASSAR DE DALT	BARCELONA
FEDERAL-MOGUL FRICTION PRODUCTOS, S.A.	BADALONA	BARCELONA
FELSAN, PERFECTO Y PEDRO, S.A.	ALBACETE	ALBACETE
FERDINAND BILSTEIN ESPAÑA, S. L.	ZARAGOZA	ZARAGOZA
FERRODISA	PUERTO DE SAGUNTO	VALENCIA
FERSA BEARINGS, S.A.	ZARAGOZA	ZARAGOZA
FERVE, S.A.	EL VENDRELL	TARRAGONA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
FIBERPACHS, S.A.	PACS DEL PENEDES	BARCELONA
FICO CABLES, S.A.	BARCELONA	BARCELONA
FICO MIRRORS , S.A.	MOLLET DEL VALLÉS	BARCELONA
FICO TRANSPAR, S.A.	BARCELONA	BARCELONA
FICO TRIAD, S.A.	RUBI	BARCELONA
FIJACIONES INDUSTRIALES, PRELOK	CORNELLA	BARCELONA
FIT AUTOMOCIÓN, S.A	VERGARA	GUIPUZCOA
FLEX 'N' GATE ESPAÑA	LES FRANQUESES DEL VALLES	BARCELONA
FLEXIX, S.A.	ZAMUDIO	VIZCAYA
FONEXION SPAIN, S.A.	BILBAO	VIZCAYA
FORBO ADHESIVES SPAIN, S.L.U.	MOS	PONTEVEDRA
FORGING PRODUCTS TRADING	AMOREBIETA	VIZCAYA
FORJANOR, S.L. (GERDAU ACEROS ESPECIALES EUROPA, S	COLLADO-VILLALBA	MADRID
FPK, LIGHT WEIGHT TECHNOLOGIES SOC COPERAT	ZAMUDIO	VIZCAYA
FRENKIT, S.L.	PUENTE LA REINA	NAVARRA
FRENOS ELECTRICOS UNIDOS, S.A.	ORCOYEN	NAVARRA
FRENOS IRUÑA, S.A.L.	GALAR	NAVARRA
FRENOS SAULEDA, S. A.	SAN CIPRIANO DE VALLALTA	BARCELONA
FRENOS Y DISCOS, S.A. -FRENDISA-	AMER	GERONA
FRENOS ZARAGOZA, S.A.	SOBRADIEL	ZARAGOZA
FREUDENBERG IBERICA, S.A. S. EN C.	PARETS DEL VALLES	BARCELONA
FUCHOSA, S.L	ATXONDO	VIZCAYA
FUCHS LUBRICANTES, S.A.U	CASTELLBISBAL	BARCELONA
FUJICAUCHO, S.L.	SANT ESTEVE SESROVIRES	BARCELONA
FUNDERIA CONDALS, S.A.	MANRESA	BARCELONA
FUNDICION INYECTADA BADALONA, S.A.	BADALONA	BARCELONA
FUNDICIONES DE ODENA, S. A.	ODENA	BARCELONA
FUNDICIONES DE VERA, S. A.	VERA DE BIDASOA	NAVARRA
FUNDICIONES INYECTADAS ALAVESAS, S.A.	NANCLARES DE LA OCA	ALAVA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
FUNDICIONES MIGUEL ROS, S. A.	SANT VINCENT DELS HORTS	BARCELONA
GALVANIZACIONES CASTELLANA	DUEÑAS	PALENCIA
GAMEKO FABRICACION DE COMPONENTES SA (CIE GAMEKO)	LEGUTIANO	ALAVA
GATES P.T. SPAIN, S.A.	BALSARENY	BARCELONA
GE LIGHTING APPLIANCES ESPAÑA, S.A.	GETAFE	MADRID
GECOINSA - GESTORA COMERCIAL INTERNACIONAL, S.L.U	VALDEMORO	MADRID
GEDINBA, S. A. (ANTES AUTOPULIT)	SAINT FRUITOS DE BAGES	BARCELONA
GESTAMP NAVARRA	ORCOYEN	NAVARRA
GESTAMP AUTOMOCION	MADRID	MADRID
GESTAMP BIZKAIA	ABADIANO	VIZCAYA
GESTAMP CATAFORESIS VIGO	VIGO	PONTEVEDRA
GESTAMP ESMAR ZP	BARCELONA	BARCELONA
GESTAMP I+D	AMOREBIETA-ETXANO	VIZCAYA
GESTAMP LINARES	LINARES	JAEN
GESTAMP PALENCIA	DUEÑAS	PALENCIA
GESTAMP TOLEDO	SESEÑA NUEVO	TOLEDO
GESTAMP VIGO	PORRIÑO	PONTEVEDRA
GKN DRIVELINE	BARBERA DEL VALLES	BARCELONA
GKN DRIVELINE VIGO, S. A.	VIGO	PONTEVEDRA
GKN DRIVELINE ZUMAYA	ZUMAYA	GUIPUZCOA
GKN DRIVELINES LEGAZPI	LEGAZPI	GUIPUZCOA
GKN-AYRA CARDAN, S.A.	DEBA	GUIPUZCOA
GOIPLASTIK, S.L.	SAN SEBASTIAN	GUIPUZCOA
GONVARRI I. CENTRO DE SERVICIOS BURGOS	BURGOS	BURGOS
GONVARRI I. CENTRO DE SERVICIOS, S.L.	MADRID	MADRID
GONVAUTO BARCELONA	CASTELLBISBAL	BARCELONA
GONVAUTO NAVARRA	NOAIN	NAVARRA
GONVAUTO, S.A.	CASTELLBISBAL	BARCELONA
GOODYEAR DUNLOP TIRES, S.A.	MADRID	MADRID
GORVI, S.A.	PAMPLONA	NAVARRA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
GOVESAN, S.A.U	COLMENAR VIEJO	MADRID
GPI ESPAÑA.SLU	SANT ANDRES DE LA BARCA	BARCELONA
GRACE, S.A.	SANT BOI DE LLOBREGAT	BARCELONA
GRAMMER AUTOMOTIVE ESPAÑA, S.A.	OLERDOLA	BARCELONA
GRUPELEC ELECTRONICA	BOECILLO	VALLADOLID
GRUPO AITANA LEVANTE, S.L.	CAUDETE	ALBACETE
GRUPO ANTOLIN-ALAVA, S.L.	VITORIA	ALAVA
GRUPO ANTOLIN-ARA, S.L.	BURGOS	BURGOS
GRUPO ANTOLIN-ARAGUSA, S.A.	BURGOS	BURGOS
GRUPO ANTOLIN-AUTOTRIM, S.A.	BARCELONA	BARCELONA
GRUPO ANTOLIN-AUTOTRIM, S.A.U	ALMUSAFES	VALENCIA
GRUPO ANTOLIN-DAPSA, S.A.	BURGOS	BURGOS
GRUPO ANTOLIN-EUROTRIM, S.A.	BURGOS	BURGOS
GRUPO ANTOLIN-INGENIERIA, S.A.	BURGOS	BURGOS
GRUPO ANTOLIN-IRAUSA, S.A.	BURGOS	BURGOS
GRUPO ANTOLIN-LINARA, S.A.	LINARES	JAEN
GRUPO ANTOLIN-MARTORELL, S.A.	SAN ESTEVE SESROVIERES	BARCELONA
GRUPO ANTOLIN-NAVARRA, S.A.	ARAZURI	NAVARRA
GRUPO ANTOLIN-PGA, S.A.	PORRIÑO	PONTEVEDRA
GRUPO ANTOLIN-PLASBUR, S.A	BURGOS	BURGOS
GRUPO ANTOLIN-RYA, S.A.	VALLADOLID	VALLADOLID
GRUPO CAUTEX, S.L. (FLEXO)	SANT FELIU DE LLOBREGAT	BARCELONA
GRUPO COMPONENTES VILANOVA S.L. (CIE C. VILANOVA)	VILANOVA I LA GELTRU	BARCELONA
GRUPO CROPU, S.L.	BURGOS	BURGOS
GRUPO ESTAMPACIONES SABADELL PLANTA POLINYA	PALAU-SOLITA I PLEGAMANS	BARCELONA
GRUPO ESTAMPACIONES SABADELL, S. A. - PLANTA PALAU	PALAU DE PLEGAMANS	BARCELONA
GRUPO GENERAL CABLE SISTEMAS SA	BARCELONA	BARCELONA
GRUPO GONVARRI	MADRID	MADRID
GRUPO MZ	ABADIANO	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
GRUPOS DIFERENCIALES, S.A.	VITORIA	ALAVA
GRYYP LINE, S.L.	SANT JUST DESVERN	BARCELONA
GSB-TBK AUTOMOTIVE COMPONENTES,S.L.	VILANOV I LA GELTRU	BARCELONA
GUARDIAN LLODIO UNO, S. L.	LLODIO	ALAVA
GUILERA, S.A.	MOLINS DE REI	BARCELONA
HALDE GAC, SDAD. LTDA.	BARCELONA	BARCELONA
HELLA, S.A.	TRES CANTOS	MADRID
HENKEL IBERICA, S.A.-DIVISIÓN MC/AIA	BARCELONA	BARCELONA
HERMANOS SANCHEZ-LAFUENTE, S.A.	CAMPANILLAS	MALAGA
HIASA	CORBERA	ASTURIAS
HIERROS Y APLANACIONES, S.A.	CORVERA DE ASTURIAS	ASTURIAS
HOFMANN INNOVATION IBERICA, S.A.	MARTORELL	BARCELONA
HOFMANN TECNICA DEL EQUILIBRADO, S.L.	ZARAGOZA	ZARAGOZA
HONEYWELL FRICCION ESPAÑA, S.A. UNIPERSONAL	BARCELONA	BARCELONA
HUF ESPAÑA, S.A.	EL BURGO DE OSMA	SORIA
HUTCHINSON INDUSTRIAS DEL CAUCHO, S.A.	ARGANDA DEL REY	MADRID
HUTCHINSON PALAMOS. S.A.	PALAMOS	GERONA
IAC GROUP, S.L.(INT. AUTOMOTIVE COMPONENTS GROUP)	AGONCILLO (LA RIOJA)	LA RIOJA
IAC GROUP, S.L.(INT.AUTOMOTIVE COMPONENTS GROUP)	VITORIA	ALAVA
IADA, S.L.	VILOBI DEL PENEDES	BARCELONA
IBERICA DE SUSPENSIONES, S.L.	ALSASUA	NAVARRA
ICER BRAKES, S.A.	PAMPLONA	NAVARRA
ICOA, S.A.	BILBAO	VIZCAYA
IDENMOVIL, S.L.	SILLA	VALENCIA
IDESA ACCESORIOS, S.A.	SANT BOI DE LLOBREGAT	BARCELONA
IDIADA AUTOMOTIVE TECHNOLOGY, S.A.	SANTA OLIVA	TARRAGONA
IGURIA, S.A.	ELORRIO	VIZCAYA
IKOR SISTEMAS ELECTRONICOS, S.A.	SAN SEBASTIAN	GUIPUZCOA
IMA 1, S.L. -INDUSTRIA MECANICA AUTOMATICA	BURGOS	BURGOS

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
INAC EXPORT, S.L.	SANT FOST DE CAMPSENTELLES	BARCELONA
INCAELEC S.L. (CABLEADOS ELECTRICOS)	ZARAGOZA	ZARAGOZA
INDECO AUTOMOVIL EUROPA SL	MALAGA	MALAGA
INDUSTRIAL ARCOL, S.A.	LA ROCA DEL VALLES	BARCELONA
INDUSTRIAL CONTROLLER	MATARO	BARCELONA
INDUSTRIAL DE TECNICA Y PRECISION, S.A.	CORNELLA DE LLOBREGAT	BARCELONA
INDUSTRIAL DE TRANSFORMADOS, S.A. - ITSA	L'ARBOS DEL PENEDES	TARRAGONA
INDUSTRIAL ELECTROLITICA CANO, S.L .INELCA	SANT ESTEVE SESROVIRES	BARCELONA
INDUSTRIAL FLEXO, S.L	SANT JUST DESVERN	BARCELONA
INDUSTRIAL OLLE TORNER, S.L.- INDOPLAST	RUBI	BARCELONA
INDUSTRIAS ALEGRE, S.A.	ALBAL	VALENCIA
INDUSTRIAS ALGA, S.A.	ABADIANO	VIZCAYA
INDUSTRIAS ALZUARAN, S.L.	ZALDIVAR	VIZCAYA
INDUSTRIAS AMAYA TELLERIA, S.A.	ERMUA	VIZCAYA
INDUSTRIAS COUSIN FRERES, S.L. (FAURECIA)	BURLADA	NAVARRA
INDUSTRIAS DE DECOLETAJE Y ESTAMPACION,S.L	ERMUA	VIZCAYA
INDUSTRIAS DEL CAUCHO, S. A.	PAMPLONA	NAVARRA
INDUSTRIAS DEL RECAMBIO DISTRIBUCION, S.L.	EGÜES	NAVARRA
INDUSTRIAS DEL UBIERNA, S. A. -UBISA-	BURGOS	BURGOS
INDUSTRIAS DOLZ	CASTELLON DE LA PLANA	CASTELLON
INDUSTRIAS FEU, S.L.	POLINYA	BARCELONA
INDUSTRIAS GALFER - GALFER AUTO	GRANOLLERS	BARCELONA
INDUSTRIAS GOL, S.A.U..	PLACENCIA DE LAS ARMAS	GUIPUZCOA
INDUSTRIAS GONAL HISPANIA, S.L.	LAS FRANQUESAS DEL VALLÉS	BARCELONA
INDUSTRIAS J. FERRER - PLANTA EST METALICA	BONREPOS	VALENCIA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
INDUSTRIAS J. FERRER - PLANTA FORJA Y FUNDICION	BONREPOS	VALENCIA
INDUSTRIAS J. FERRER - PLANTA MECANIZADO	BONREPOS	VALENCIA
INDUSTRIAS J. FERRER, S. A.	BONREPOS	VALENCIA
INDUSTRIAS J. SARDAÑES, S.L.	SANT ANDRES DE LA BARCA	BARCELONA
INDUSTRIAS MECANICAS JEFRA, S.L.	ALMUSSAFES	VALENCIA
INDUSTRIAS OCHOA, S.L.	RIBARROJA	VALENCIA
INDUSTRIAS PLASTICAS TRILLA, S. A.	ALCALÁ DE HENARES	MADRID
INDUSTRIAS QUIMICAS NABER, S.A.	BENIPARRELL	VALENCIA
INDUSTRIAS REHAU, S.A.	GAVA	BARCELONA
INDUSTRIAS SALUDES, S.A.U	ALCASSER	VALENCIA
INDUSTRIAS SAMART, S.A.	FIGUERES	GERONA
INDUSTRIAS ZELU, S.L. (KLAM)	ARRE	NAVARRA
INDUSTRIE ILPEA ESPAÑA, S. A.	POLINYA	BARCELONA
INERGY AUTOMOTIVE SYSTEMS, S.A.	GONDOMAR	PONTEVEDRA
INEXCO-TRADING, S.A.	MADRID	MADRID
INFUN, S.A.	SANT VICENÇ DELS HORTS	BARCELONA
INGARSA	OLITE	NAVARRA
INGENIERIA GLOBAL METALBAGES	SANTPEDOR	BARCELONA
INKATOR, S.A.	RUBI	BARCELONA
INLISA	BARCELONA	BARCELONA
INSONORIZANTES PELZER , S.A.	ZARAGOZA	ZARAGOZA
INSTITUTO ANDALUZ DE TECNOLOGIA	SEVILLA	SEVILLA
INTECSA - INDUSTRIAS TECNICAS DE LA ESPUMA (HUTCHI	ARMIÑON	ALAVA
INTERNACIONAL HISPACOLD, S.A.	SEVILLA	SEVILLA
INTEVA PRODUCTS ESPAÑA, S. A.	SANTA MARIA DE PALAUTORDERA	BARCELONA
INTIER AUTOMOTIVE INTERIORS ZIPPEX, S.A.	POLINYA	BARCELONA
INYECTAMETAL, S. A. (CIE INYECTAMETAL)	ABADIANO	VIZCAYA
IQAP MASTERBATCH GROUP	MASIES DE RODA	BARCELONA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
IRUÑA RECAMBIOS DE FRENOS, S.L.	BARBATAIN-GALAR	NAVARRA
ISRINGHAUSEN SPAIN	PAMPLONA	NAVARRA
ISTOBAL, S. A.	L'ALCUDIA	VALENCIA
ITAL RECAMBIOS, S. A.	MADRID	MADRID
ITM - INFORMACIÓN, TECNOLOGÍA Y MERCADO, S.A.U	ZARAGOZA	ZARAGOZA
ITW ESPAÑA, S. A.	LES FRANQUESES DEL VALLES	BARCELONA
J.JUAN, S.A.	GAVA	BARCELONA
J.L. FRENCH ANSOLA, S.L.	ETXEBARRI	VIZCAYA
JABER, S.A.	MOSTOLES	MADRID
JAL INDUSTRIA AUXILIAR DE MECANIZACION	PINTO	MADRID
JEGAN, S.A.L.	ITZIAR-DEBA	GUIPUZCOA
JESUS OÑATE Y HERMANOS, S.A.	DURANGO	VIZCAYA
JJL SEGURIDAD AUTOMOCION, S.L.	SAN SEBASTIAN DE LOS REYES	MADRID
JOARJO, S.L.	PUEBLA DE ALFINDEN	ZARAGOZA
JOHN DEERE IBERICA, S.A.	GETAFE	MADRID
JOHNSON CONTROLS ALAGON S.A.V.	ALAGON	ZARAGOZA
JOHNSON CONTROLS AUTOBATERIAS, S.A.	MADRID	MADRID
JOHNSON CONTROLS EUROSIT, S.L.	ABRERA	BARCELONA
JOHNSON CONTROLS IBERICA	AGULLENT	VALENCIA
JOHNSON CONTROLS VALLADOLID, S.A. UNIPERSONAL	MOJADOS	VALLADOLID
JORDAN MARTORELL, S.L.	MARTORELL	BARCELONA
JOST IBERICA, S.A.	ZARAGOZA	ZARAGOZA
JUMASA PARTS S.L.U.	SONDIKA	VIZCAYA
JUNTA 3, S.L.	RIVA ROJA DEL TURIA	VALENCIA
KAMAX TUSA, S.A.	MUSEROS	VALENCIA
KANSEI SPAIN , S.A.	OLERDOLA	BARCELONA
KATAFORESIS BURGOS, S.A.	BURGOS	BURGOS
KAUFIL SEALING TECHNOLOGIES	LOGROÑO	LA RIOJA
KAUTEX TEXTRON IBERICA, S.L.	PALAU DE PLEGAMANS	BARCELONA
KEIPER IBERICA S.A.	CALATORAO	ZARAGOZA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
KIT PERSONALIZACION SPORT, S.L.-KP SPORT	MONTMELO	BARCELONA
KOSTAL ELECTRICA, S.A.	SENTMENAT	BARCELONA
KOYO BEARINGS	BILBAO	VIZCAYA
KOYO IBERICA, S.L	COSLADA	MADRID
KRAFFT, S.A.	ANDOAIN	GUIPUZCOA
KUSTER ESPAÑA, S.A.	RIPOLLET	BARCELONA
KYB EUROPE GMBH SUCURSAL EN ESPAÑA	ALCALÁ DE HENARES	MADRID
KYB STEERING SPAIN	ORCOYEN	NAVARRA
KYB SUSPENSIONS EUROPE, S.A.	ORORBIA	NAVARRA
L & D AROMATICOS, S.A.	HUERCAL DE ALMERIA	ALMERIA
LA UNION METALURGICA, S.A.	BARCELONA	BARCELONA
LAHNWERK RUBI, S. A.U	ABRERA	BARCELONA
LAMINACION VIZCAYA, S.L	SAN MIGUEL DE BASAURI	VIZCAYA
LAMINADOS LOSAL, S.A.	GUERNICA	VIZCAYA
LARZEP, S. A.	MALLAVIA	VIZCAYA
LCN MECANICA, S.L.	GUADALAJARA	GUADALAJARA
LEAR AUTOMOTIVE (EEDS) SPAIN, S.L.	VALLS	TARRAGONA
LEAR CORPORATION ASIENTOS, S.L.	EPILA	ZARAGOZA
LEBO, S.L.U.	LLEIDA	LÉRIDA
LECIÑENA, S.A.	UTEBO	ZARAGOZA
LEXTON, S.L.	ZARAGOZA	ZARAGOZA
LGAI TECHNOLOGICAL CENTER, S.A.	BELLATERRA	BARCELONA
LINDE Y WIEMANN, S.A.	LA GARRIGA	BARCELONA
LINGOTES ESPECIALES S.A.	VALLADOLID	VALLADOLID
LISI AUTOMOTIVE KNIPPING ESPAÑA	FUENLABRADA	MADRID
LITE ENERGY ESPAÑA, S.A.	ODENA	BARCELONA
LIZARTE, S.A.	PAMPLONA	NAVARRA
LONGWOOD ELASTOMERS, S.A.	SORIA	SORIA
LUGER CENTRO DE CORTE, S.L.	ARGANDA DEL REY	MADRID
MAGNA DONNELLY ESPAÑA, S.A.	POLINYA	BARCELONA
MAGNETI MARELLI ELECTRONICA, S.L.	BARBERA DEL VALLES	BARCELONA
MAHLE AFTERMARKET, S.L.	ALCALA DE HENARES	MADRID

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
MAHLE BEHR SPAIN, S.A.	MONTBLANC	TARRAGONA
MAHLE, S.A.	VILANOVA I LA GELTRU	BARCELONA
MAIER, S.COOP.	GUERNICA	VIZCAYA
MAIN-METALL ESPAÑOLA, S.L.	TORRELAVEGA	CANTABRIA
MANAD, S.A.	BARCELONA	BARCELONA
MANIPULADOS ELECTRICOS, S.L.-COELEC	PRAT DE LLOBREGAT	BARCELONA
MANN HUMMEL IBERICA, S.A.	ZARAGOZA	ZARAGOZA
MANUFACTURA MODERNA DE METALES, S.A.	MOLINS DE REI	BARCELONA
MANUFACTURAS CRUCE, S.A.	PINTO	MADRID
MANUFACTURAS WRAKYNSON	LERIDA	LERIDA
MANUFACTURAS Y ACCESORIOS ELECTRICOS, S.A. (MAESA)	TORREJON DE ARDOZ	MADRID
MAPRO SISTEMAS DE ENSAYO, S.A.	SANT FRUITOS DEL BAGES	BARCELONA
MAPSA, S. COOP.	ORCOYEN	NAVARRA
MARTINREA HONSEL SLU	MOSTOLES	MADRID
MASATS, S.A.	SANT SALVADOR DE GUARDIOLA	BARCELONA
MATE COMPAC SL	NÁQUERA	VALENCIA
MATIENA-FEPA, S.L.	ABADIANO	VIZCAYA
MATRICES Y MOLDES, J.F.M., S.A.	SAN VICENT DELS HORTS	BARCELONA
MATRICI, S. COOP. LTDA.	ZAMUDIO	VIZCAYA
MATRIPLAS, S.L.	PARACUELLOS DEL JARAMA	MADRID
MATRIVAL, S.L.	BENIPARRELL	VALENCIA
MAXIMA TECHNOLOGIES SL	RUBI	BARCELONA
MAXION WHEELS	MANRESA	BARCELONA
MB ABRERA, S.A.	SANTPEDOR	BARCELONA
MB ARAGON	PEDROLA	ZARAGOZA
MB HIDROACERO	ORCOYEN	NAVARRA
MB LEVANTE	ALMUSAFES	VALENCIA
MB SANTPEDOR	SANTPEDOR	BARCELONA
MECALBE, S.A.	MALLAVIA	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
MECANER,S.A.	URDULIZ	VIZCAYA
MECANICAS DE LA SERNA, S.A.	ZARAGOZA	ZARAGOZA
MECANIZACIONES DEL SUR MECASUR, S.A. (CIE MECASUR)	VITORIA	ALAVA
MECANIZADOS DE CALIDAD, S.A.. - MECALSA	LEGUTIANO-VILLARREAL DE ALAVA	ALAVA
MECANIZADOS INDUSTRIA AUXILIAR, S.A.- MIASA-	PAMPLONA	NAVARRA
MECAPAL, S.L.	OÑATE	GUIPUZCOA
MECAPLAST IBERICA S.AU	SESEÑA	TOLEDO
MEDINABI RODAMIENTOS, S. L.	MADRID	MADRID
MEGATECH INDUSTRIES AMURRIO, S.L.	AMURRIO	ALAVA
MELCHOR GABILONDO, S. A.	BERRIZ	VIZCAYA
METAGRA BERGARA, S.A.	VERGARA	GUIPUZCOA
METALBAGES, S.A.	SANTPEDOR	BARCELONA
METALOR IBERICA, S.A.	BARCELONA	BARCELONA
METALURGICA MADRILEÑA, S.A.	ALCALA DE HENARES	MADRID
MGI COUTIER, ESPAÑA SLU	VIGO	PONTEVEDRA
MICHELIN ESPAÑA PORTUGAL, S.A.	TRES CANTOS	MADRID
MIGUELEZ, S.L.	LEON	LEON
MIJU, S.A.	ZARAGOZA	ZARAGOZA
MILLARD FILTERS IBERICA, S.L.	LAS ROZAS DE MADRID	MADRID
MOBIS PARTS EUROPE NV, SUCURSAL ESPAÑA	MECO	MADRID
MOELSI, S.A.	VILASSAR DE DALT	BARCELONA
MONDRAGON AUTOMOCION, S. COOP.	ARRASATE	GUIPUZCOA
MOTHERSON SINTERMETAL PRODUCTS, S.A.	RIPOLLET	BARCELONA
MP AERONAUTICA	SEVILLA	SEVILLA
MP TUBOS DE GOMA, S.L.	MONTMELO	BARCELONA
MRB ENGRANAJES	POLINYA	BARCELONA
MUELLES Y BALLESTAS HISPANO ALEMANAS, S.A.	VILLARREAL DE LOS INFANTES	CASTELLON
NAGARES, S. A.	MOTILLA DEL PALANCAR	CUENCA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
NATAN SL	SANT ADRIA DE BESOS	BARCELONA
NEDERLANDSE RADIATEUREN FABRIEX ESPAÑA S.A.	PELIGROS	GRANADA
NEDSSHROES BARCELONA SAU	SANT JOAN DESPI	BARCELONA
NEOTRONIC, S.A.	MONTCADA I REIXACH	BARCELONA
NER-TOR, S.A.	OLESSA DE MONTSERRAT	BARCELONA
NEUMARSA-EXPORT	BARCELONA	BARCELONA
NEXANS IBERIA, S.L.	POLINYA	BARCELONA
NGK SPARK PLUG EUROPE GMBH (SUCURSAL EN ESPAÑA)	SANT JUST DESVERN	BARCELONA
NOBEL PLASTIQUES IBERICA, S. A.	SANT JOAN DESPI	BARCELONA
NOVA RANK S.L.	BARCELONA	BARCELONA
NOVA RECYD, SAU (CIE NOVA RECYD)	LEGUTIANO	ALAVA
NTN-SNR IBERICA, S. A.	MADRID	MADRID
NUCAP EUROPE, S.A.	ARAZURI	NAVARRA
OETIKER ESPAÑA, S. A.	EL PUERTO DE SANTA MARIA	CADIZ
OLIPES, S.L.	CAMPO REAL	MADRID
OMNIA MOTOR, S.A.	BARCELONA	BARCELONA
OMRON ELECTRONICS, S.A.	MADRID	MADRID
ONYX OIL LUBRICANTES, S.L.	SANT QUIRZE DEL VALLES	BARCELONA
ORBELAN PLASTICOS, S.A. (CIE ORBELAN)	ANDOAIN	GUIPUZCOA
OSRAM, S.A.	TORREJON DE ARDOZ	MADRID
OTZA MACHARIA, S.A.	LOGROÑO	LA RIOJA
PANEL FIJACIONES, S.COOP.	TOLOSA	GUIPUZCOA
PARKER HANIFFIN ESPAÑA, S.L	TORREJON DE ARDOZ	MADRID
PEDRO ROQUET, S.A.	TONA	BARCELONA
PEIMER, S.A.	PUERTO DE SANTA MARIA, EL	CÁDIZ
PETRONAS LUBRICANTES SPAIN SLU	CANOVELLES	BARCELONA
PHILIPS IBERICA SAU-DIVISION ALUMBRADO	MADRID	MADRID
PHIRA COMPONENTES AUTOMOCION, S.A.	SANT JOAN DESPI	BARCELONA
PIERBURG, S.A.	ABADIANO	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
PILKINGTON AUTOMOTIVE ESPAÑA S.A	SAGUNTO	VALENCIA
PINTURAS VICAR, S.A.	PINTO	MADRID
PIRELLI NEUMATICOS, S.A.U.	BARCELONA	BARCELONA
PLASTICOS ABC SPAIN, S.A.	SORIA	SORIA
PLASTICOS BRELLO, S. A.	HUARTE	NAVARRA
PLASTICOS GETAFE INDUSTRIAL, S. A. (PLASGEIN)	FUENLABRADA	MADRID
PLASTO ADHESIVOS IBERICA, S.L.	PORRIÑO	PONTEVEDRA
PMG ASTURIAS POWDER METAL, S.A.U.	MIERES	ASTURIAS
PMG POLMETASA, SAU	MONDRAGON	GUIPUZCOA
POLIURETANO MOLDEADO, S.L.	CARTAGENA	MURCIA
POLYONE ESPAÑA SL	BARBASTRO	HUESCA
POWER PACKER ESPAÑA, S. A.	TORRIJOS	TOLEDO
PPG IBERICA, S.A.	RUBI	BARCELONA
PRICEWATERHOUSE COOPERS, ASESORES DE NEGOCIOS, S.L	MADRID	MADRID
PROCOAT TECNOLOGIAS, S.L.	CASTELLGALI	BARCELONA
PRODUCTOS CONCENTROL, S.A.	RIUDELLOTS DE LA SELVA	GERONA
PRODUCTOS PLASTICOS PEFORMANTES 3.P., S.A.	RIBA-ROJA DE TURIA	VALENCIA
PROMA HISPANIA, S.A.	EPILA	ZARAGOZA
PROQUISUR, S.L.	RUTE	CORDOBA
PROSEAT FOAM MANUFACTURING SL	SANTPEDOR	BARCELONA
PROYECTOS Y PRODUCCIONES CYAN S.A.	MADRID	MADRID
PYMASA -PIEZAS Y MECANISMOS DE AUTOMOCION,SA.	FUENLABRADA	MADRID
QUIMIBERICA, S.A.	ARRUBAL	LA RIOJA
QUIMILOCK, S.A.	GETAFE	MADRID
RADIADORES ORDOÑEZ, S.A.	CASTELLON DE LA PLANA	CASTELLON
RAYTHEON MICROELECTRONIC ESPAÑA, S.A.	CAMPANILLAS	MALAGA
RECAUCHUTADOS MESAS, S.A.	ALBACETE	ALBACETE
RECYDE SAU (CIE RECYDE)	ELGUETA	GUIPUZCOA
RELATS, S.A.	CALDES DE MONTBUI	BARCELONA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
RELEVOR IZARRA SAU	IZARRA	ALAVA
RENOLIT IBERICA	SANT CELONI	BARCELONA
RIALS, S.A.	TORREJON DE ARDOZ	MADRID
RIBAWOOD, S.A.	VILLANUEVA DE GALLEGO	ZARAGOZA
RICARDO PREHN, S.A.	CASTELLBISBAL	BARCELONA
RINDER INDUSTRIAL, S.A.	GUERNICA	VIZCAYA
ROBERLO, S.A.	SANTA CRISTINA DE HARO	GERONA
ROBERLO, S.A.	RIUDELLOTS DE LA SELVA	GERONA
ROBERT BOSCH ESPAÑA, S.L.U.	MADRID	MADRID
ROBERT BOSCH ESPAÑA-FABRICA CASTELLET, S.A.	VILAFRANCA DEL PENEDES	BARCELONA
ROBERT BOSCH ESPAÑA-FABRICA MADRID, S.A.	MADRID	MADRID
ROBERT BOSCH ESPAÑA-FABRICA TRETO,S.A.	TRETO	CANTABRIA
ROBERT BOSCH GASOLINE SYSTEMS SA	ARANJUEZ	MADRID
ROEIRASA, S.A.	GETAFE	MADRID
RONAL IBERICA, S.A.	TERUEL	TERUEL
RPK METAL FORMING S.A.U.	TARRAGONA	TARRAGONA
RPK, S.COOP.	VITORIA	ALAVA
RTS, S.A.	MENDARO	GUIPUZCOA
RUBBERMOLD, S.L.	VILADECANS	BARCELONA
RUFFINI, S.A.	RUBI	BARCELONA
RYME-TECNICAS REUNIDAS DE AUTOMOCIÓN,S.A	BURGOS	BURGOS
S. A. MASATS	SAN SALVADOR DE GUARDIOLA	BARCELONA
S.A. METALOGRAFICA	CERDANYOLA	BARCELONA
SA DE TUERCAS	ABADIANO	VIZCAYA
SADECA SYSTEMS SLU	SENTMENAT	BARCELONA
SAGOLA, S.A.	VITORIA	ALAVA
SAINT-GOBAIN SEKURIT	MADRID	MADRID
SAMOA INDUSTRIAL, S.A.	GIJON	ASTURIAS

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
SANDHAR TECHNOLOGIES BARCELONA	SANTA MARGARIDA I ELS MONJOS	BARCELONA
SANTIAGO SALABERRIA, S.A.	YURRETA	VIZCAYA
SAPA EXTRUSION LA SELVA, S.L.	LA SELVA DE CAMP	TARRAGONA
SCHADE AUTOMOCIÓN S.A.	EGÜES	NAVARRA
SCHAEFFLER IBERIA SLU	SAN AGUSTIN DE GUADALIX	MADRID
SCHOTT IBERICA, S.A.	SANT ADRIA DE BESOS	BARCELONA
SCHUNK IBERICA, S.A.	PINTO	MADRID
SEAT COMPONENTES (GEARBOX DEL PRAT, S.A.)	EL PRAT DE LLOBREGAT	BARCELONA
SEGURIDAD INDUSTRIAL SEINSA	EUGUI	NAVARRA
SEINSA - SEGURIDAD INDUSTRIAL, S.A.	EUGUI	NAVARRA
SERCORE TECH, S.L.	DAGANZO DE ARRIBA	MADRID
SIDENOR INDUSTRIAL SL	VITORIA	ALAVA
SILENCIOSOS ASTEASU SLL	ASTEASU	GUIPUZCOA
SILENCIOSOS FALCES, S.A.	FALCES	NAVARRA
SINTERIZADOS MONTBLANCH, S.A. -SIMO-	SANT FELIU DE LLOBREGAT	BARCELONA
SISTEMAS MECANICOS AVANZADOS, S.L.	ERANDIO	VIZCAYA
SKF ESPAÑOLA, S.A.	ALCOBENDAS	MADRID
SMP AUTOMOTIVE TECHNOLOGY IBERICA, S.L.	POLINYA	BARCELONA
SOGEFI FILTRATION, S.A.	CERDANYOLA DEL VALLES	BARCELONA
SOLBLANK, S.A.	CASTELLBISBAL	BARCELONA
SOME, S.A.	SANT QUIRZE DE BESORA	BARCELONA
SRG GLOBAL LIRIA, S.L.	LLIRIA	VALENCIA
STABILIS GMBH - OFICINA ESPAÑA	DERIO	VIZCAYA
STADLER, S.A.	OÑATE	GUIPUZCOA
STAGI INTERNACIONAL, S.A.	MADRID	MADRID
STUKA, S.A.	IZURZA	VIZCAYA
SUMEX, S.A.	SAN JOAN DESPI	BARCELONA
SYSTEM & MANUFACTRING SPAIN, S.A. (SMS)	MANZANARES	CIUDAD REAL

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
T. FIXTOR, S.A.	RENTERIA	GUIPUZCOA
TAB SPAIN, S.L.	BARBERA DEL VALLES	BARCELONA
TALLERES AUXILIARES DE ESTAMPACIONES - TADE	SABADELL	BARCELONA
TALLERES BRIMO, S.A.	GRANOLLERS	BARCELONA
TALLERES DE ESCORIAZA	SAN FERNANDO DE HENARES	MADRID
TALLERES LORES, S.A. - TALOSA	EGÜES	NAVARRA
TALLERES ORAN, S. L.	SANTANDER	CANTABRIA
TALLERES PROTEGIDOS GUREAK, S.A.	SAN SEBASTIAN	GUIPUZCOA
TALLERES RICARDO GARCIA, S.L.	ARGANDA DEL REY	MADRID
TARABUSI, S. A.	YGORRE	VIZCAYA
TEAASA - TECNICOS AUTOMOTRICES ASOCIADOS, S. A.	LA PUEBLA DE ALFINDEN	ZARAGOZA
TECNO DESIGN, S.L.	TEIÀ	BARCELONA
TECNOCONFORT, S. A.	PAMPLONA	NAVARRA
TEIN CENTRO TECNLOGICO DEL PLASTICO-TCTP	VALLS	TARRAGONA
TEKNIA AZUQUECA (IBEROFON PLASTICOS)	AZUQUECA DE HENARES	GUADALAJARA
TEKNIA ELORRIO SL	ELORRIO	VIZCAYA
TEKNIA ELORRIO, S.L.	EIBAR	GUIPUZCOA
TEKNIA INDECO SA	ASUA-ERANDIO	VIZCAYA
TEKNIA MARTOS SLU	MARTOS	JAEN
TEKNIA MARTOS SLU	MARTOS	JAEN
TENNECO AUTOMOTIVE IBERICA , S.A. (DIVI. FONOS)	ERMUA	VIZCAYA
TENNECO AUTOMOTIVE IBERICA, S.A.	ERMUA	VIZCAYA
TENNECO AUTOMOTIVE IBERICA, S.A.	ERMUA	VIZCAYA
TESA TAPE SA	ARGENTONA	BARCELONA
THYSSENKRUPP MATERIALS IBERICA, S.A.	MARTORELL	BARCELONA
TI GROUP AUTOMOTIVE SYSTEMS, S.A.(SOC.UNIPERSONAL)	MONTORNES DEL VALLES	BARCELONA
TM BELLVEI DECOLETAJE, S. A.	BELLVEI	TARRAGONA
TMD FRICTION ESPAÑA, S.L.SOCIEDAD UNIPERSONAL	CORNELLA	BARCELONA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
TORNILLERIA DEBA, SAL	VERGARA	GUIPUZCOA
TORNIPLASA, S.L.L.	VITORIA	ALAVA
TORRES CAR MARKETING, S.L.	CASTELDEFELS	BARCELONA
TORUNSA, S.A.	VERGARA	GUIPUZCOA
TRABAZOLA, S.A.	BILBAO	VIZCAYA
TRANSFORMACIONES METALURGICAS NORMA, S.A.(CIENORMA	ITZIAR-DEBA	GUIPUZCOA
TRANSFORMACIONES METALURGICAS, S.A.U	PREMIA DE MAR	BARCELONA
TRANSFORMADOS SINTETICOS	SAN VICENTE DEL RASPEIG	ALICANTE
TRELLEBORG AUTOMOTIVE SPAIN, S.A.	MARTORELL	BARCELONA
TRELLEBORG INEPSA, S.A.	PAMPLONA	NAVARRA
TRETY, S.A.	MAÇANET DE LA SELVA	GERONA
TRICLO, S.A.	SANT ANDRES DE LA BARCA	BARCELONA
TRIMPLAST, S.L.	BARBERA DEL VALLES	BARCELONA
TRW AUTOMOTIVE ESPAÑA SL	MADRID	MADRID
TRW AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
TRW AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
TRW AUTOMOTIVE ESPAÑA, S.L.	MADRID	MADRID
TRW AUTOMOTIVE ESPAÑA, S.L.A.	POZUELO DE ALARCON	MADRID
TRW AUTOMOTIVE ESPAÑA.S.L	MADRID	MADRID
TST - STAG, S.A.	MADRID	MADRID
TUBSA AUTOMOCION, S.L. -FLEX-N-GATE	SANT JUST DESVERN	BARCELONA
TUERCAS Y FIJACIONES TECNOLOGICAS, S.A.	CORNELLA DE LLOBREGAT	BARCELONA
TUNNING DESIGN, S.L.	SANT FOST DE CAMPSENTELLES	BARCELONA
TURBO 3 T.C., S.A.	SANT BOI DE LLOBREGAT	BARCELONA
TURBOMECANICA, S.A. (TURMESA)	GETAFE	MADRID
TYCO ELECTRONICS AMP ESPAÑA, S.A.	MONTCADA I REIXAC	BARCELONA
UBIPLAST, S.L.	BURGOS	BURGOS
UGARTEBURU, S.A.	MALLAVIA	VIZCAYA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
UPM - INSIA	MADRID	MADRID
URBENI, S.L.	LA MUELA	ZARAGOZA
URSA IBERICA AISLANTES, S.A.	PLA DE SANTA MARIA, EL	TARRAGONA
USINOR IBERICA, S.A.	MADRID	MADRID
V.LUZURIAGA-USURBIL, S.A.	USURBIL	GUIPUZCOA
VALENCIA MODULOS DE PUERTA S.L.	ALMUSSAFES	VALENCIA
VALEO CLIMATIZACION, S. A.	MARTORELLAS	BARCELONA
VALEO ESPAÑA, S.A.- DIV. TRANSMISIONES	FUENLABRADA	MADRID
VALEO ESPAÑA,S.A.-DCION.NACIONAL ESPAÑA Y PORTUGAL	GETAFE	MADRID
VALEO ILUMINACION, S.A.	MARTOS	JAEN
VALEO SERVICE ESPAÑA, S.A.	GETAFE	MADRID
VALEO SISTEMAS DE SEGURIDAD Y DE CIERRE, S.A.	OLESA DE MONTSERRAT	BARCELONA
VALEO SISTEMAS ELECTRICOS, S.L.	MADRID	MADRID
VALEO TERMICO, S.A.	ZARAGOZA	ZARAGOZA
VALVULAS LAC, S.A.	TARRASA	BARCELONA
VB AUTOBATERIAS, S.A.	GUARDAMAR DE SEGURA	ALICANTE
VB AUTOBATERIAS, S.A.	BURGOS	BURGOS
VIGAR, S.A.	RUBI	BARCELONA
VIPIEMME ACCUMULATORI, S.P.A.	ISSO (BERGAMO)	
VISTEON, S.A.	IGUALADA	BARCELONA
VIZA AUTOMOCION	PORRIÑO	PONTEVEDRA
VIZA AUTOMOCION, S. A.U	PORRIÑO	PONTEVEDRA
VULCANIZADOS CAUCHO METAL, S.L. - VULCAM	LA LLAGOSTA	BARCELONA
WABCO ESPAÑA S.L.	SAN FERNANDO DE HENARES	MADRID
WALTER PACK, S.L.	IGORRE	VIZCAYA
WAT DIRECCIONES, S.A.	MALLABIA	VIZCAYA
WISCO ESPAÑOLA, S.A.	BETELU	NAVARRA
WITZENMANN ESPAÑOLA, S.A.	GUADALAJARA	GUADALAJARA
WOCO TECNICA SA	IRUN	GUIPUZCUA

RAZÓN SOCIAL	LOCALIDAD	PROVINCIA
YUASA BATTERY IBERIA, S.A.	COSLADA	MADRID
ZANINI AUTO GRUP, S.A.	PARETS DEL VALLES	BARCELONA
ZERTAN, S.A.	VILLATUERTA	NAVARRA
ZF LEMFÖRDER TVA, S.A	ERMUA	VIZCAYA
ZF SACHS ESPAÑA, S.A.	LEZAMA	VIZCAYA
ZF SERVICES ESPAÑA, S.A.U.	SANT CUGAT DEL VALLES	BARCELONA
ZF SERVICES ESPAÑA.S.A.U.	SANT CUGAT DEL VALLES	BARCELONA
ZGS FRENOS, S.L.	BARCELONA	BARCELONA
ZOEL MIR, S.L.	NOAIN	NAVARRA

APPENDIX D.

PAPERS