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**“Born- global” firms and its accelerated process of internationalization. CO2 Smart Tech approach.**

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# Abstract

The objective of this project is to develop an internationalization diagnosis of a Galician enterprise in order to discern if it is a “born- global” firm. This analysis is based on a previous literature review of several authors and the model of Ten Strategies of Internationalization to identify the most suitable internationalization strategies. The internal analysis of the company is developed through VRIO model and Porter`s Value Chain Model. The case study is focused on CO2 Smart Tech. This venture commercializes the service of monitoring and energy management through an innovative software.

As a result of the analysis, we identify CO2 Smart Tech as a born- global firm. The percentage of external income is high despite of being a young company. There are several factors that have determined the speed of its internationalization. The entrepreneur, with his global vision, has been able to take advantage of different opportunities arised. The management team has increased the capacity of the firm for adapting abroad, even in countries with high culture differences. The short life of the company and the human capital quality has favoured it, compared to other companies. The pre- established contacts of the entrepreneur had been also a relevant factor. The internationalization model followed by the venture is based on the previous clients of the firm in Spain. The high quality of the product and the technical service offered have been also appreciated in the foreign markets. Through a differentiation strategy, the company has stood out over their competitors.

*Key words:* born-global firm, internationalization, model of Ten Strategies of Internationalization, VRIO

# Resumen

El objetivo de este trabajo es el desarrollo de un análisis de internacionalización de una empresa gallega, con el fin de discernir si se trata de una “born- global”. Dicho análisis se basa en una revisión bibliográfica de diferentes autores así como en el modelo de las Diez estrategias de Internacionalización- que permite detectar cuáles son las estrategias de internacionalización más adecuadas. El análisis interno de la compañía se lleva a cabo utilizando el modelo VRIO y la Cadena de Valor de Porter. El caso de estudio se centra sobre CO2 Smart Tech. A través de un software innovador, esta empresa ofrece el servicio de monitorización y gestión energética.

Los resultados alcanzados identifican a CO2 Smart Tech como una born- global. El porcentaje de ingresos procedentes del extranjero es elevado a pesar de su corta edad. Son varios los factores que han determinado su ritmo de internacionalización. El emprendedor, con su visión global, ha sabido aprehender las oportunidades que iban surgiendo. Su gestión ha caracterizado a la firma con una alta capacidad de adaptación al entorno, incluso en países cuyas diferencias culturales son elevadas. La juventud de la compañía y la calidad del capital humano que posee han favorecido al mismo. Por otro lado, los contactos previos del emprendedor han sido clave. El modelo de internacionalización seguido por la firma se basa sobre los clientes previos que tiene en España. Este éxito en el mercado ha sido alcanzado mediante la calidad del producto y servicio técnico que ofrecen. A través de una estrategia de diferenciación han conseguido destacar por encima de sus competidores.

*Palabras clave:* born-global, internationalization, model de Diez Estrategias de Internacionalización, VRIO.

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# Introduction

This work develops an internationalization diagnosis of a Galician enterprise in order to discern if it is a born-global. Using the knowledge acquired throughout my degree in Business Administration, I have done a literature review to identify a conceptual framework and I have applied it to the analysis of a real company using the case study method.

Nowadays, “born- global” firms are a patent reality; as a consequence of it many authors have focused on studying them. In this point we wonder, which are the factors that generate an early internationalization of the companies? An exhaustive analysis of the existing literature has driven us to detect a research gap about the integration of these factors.

This previous literature review that reveals the mentioned incoherence makes our need of study arises. To satisfy it, our goal is to determine relevant dimensions that stimulate companies spread out of the domestic market. To achieve it, we develop a diagnosis of the internationalization strategy of a technological enterprise in order to identify it as a “born-global” firm.

Our work is structured in seven sections. First, we set forth theoretical approaches of internationalization strategies. We have studied the work of diverse authors, who analyse the accelerated process of internationalization to explain the origin of “born-global” firms. We have combined this previous analysis with the integrative perspective of the model of ten strategies of internationalization (Villarreal 2008), in order to pull out different proposals that are addressed at the end of the conceptual framework.

Second section is referred to implemented methodology. Our aim of studying a specific situation, focused on CO2 Smart Tech business has driven us to choose the development of a single case study.

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Focusing on CO2 Smart Tech, in the next section we carry out an introduction of the firm and its product. Through the collected information we develop an internal diagnosis of the firm as well as its internationalization profile following the model of ten strategies of internationalization.

Eventually, we apply theoretical propositions to the case study. To develop it, we use both primary and secondary sources. This will provide us final conclusions that together with bibliography are the last division of our work.



# 1. Theoretical Framework

## 1.1 Literature review of the accelerated process of internationalization: New International Enterprise (NIE)

The internationalization of firms has been increasing during the first decade of XXI century. Economic globalization based on a greater accessibility and availability of media has benefited the creation of international commercial and personal networks.

“Born-Globals” or “New International Enterprises” refer to the companies that are characterized by an accelerated process of internationalization, in spite of the fact that there is no unanimity regarding its denomination (Leiva G., & Dardel F., 2008, p.10).

Specifically, Oviatt & McDougall in 1994 defined these enterprises as “business organizations that, from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (p.49). Moreover, Knight and Cavusgil (2004) consider that born-global firms are “young businesses characterized by a particular pattern of innovativeness that gives rise to early internationalization” (p.135).

There are several factors that determine the profile of a new company as a “born global”. Therefore, defining peculiarities to make a company become New International Enterprise (NIE) is our objective in the following paragraphs through the study of different authors.

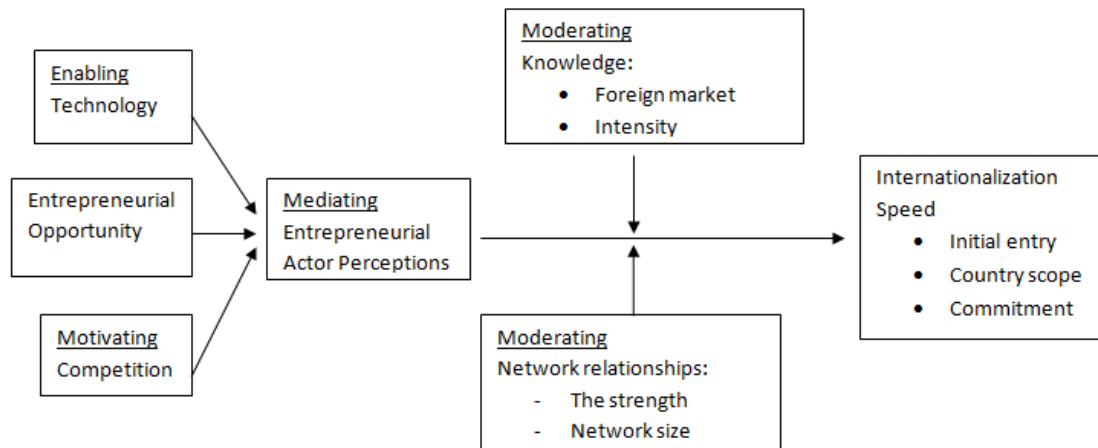
According to Oviatt and McDougall (2005), international entrepreneurship is understood as “the discovery, enactment, evaluation, and exploitation of opportunities- across national borders- to create future goods” (p.540).

These authors conclude that the speed with which international business opportunities are harnessed depends on combining cross-national-borders networks and knowledge

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type. The authors present a model that collects some forces that affect to the internationalization speed: enabling force, motivating force, mediating force and moderating force. The following diagram (Figure 1) presents the relationship between them:

Figure 1. Model - proposed by Oviatt and McDougall- of the forces that affect the internationalization speed of a company



Source: Oviatt B.M., McDougall P.P., (2005). *Defining International Entrepreneurship and Modeling the Speed of Internationalization*. Entrepreneurship Theory and Practice

The entrepreneur plays a mediating role in the internationalization process. His/ her mission is to detect the entrepreneurial opportunity, and identifying other factors: how enabling force affects, mainly in transport, communication and digital technology areas; plus studying motivating force, which comes determined by the competence.

The social capital of the entrepreneur is a moderating force. The entrepreneur takes advantage of the available knowledge and the established network links that he/she has across national borders. The integration among these factors is the responsible of the speed of the business opportunity in foreign markets.

Oviatt and McDougall (2005, p.544) state that there are three aspects that influence the moderating role of networks:

- The strength of network ties- link between actors-: weak ties are the most important ones. Specifically, ties with investors have relevance. Thus, a company which has already set the ties when a business opportunity arises will have a faster internationalization process.

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- The size of the network: there is a positive direct correlation, the larger the size of network links, the greater speed of internationalization.
- Overall density of the network: there are sparse and dense networks. The most effective ones in terms of generating new information are the first ones. However, dense networks generate trust between network actors, so they are also desirable in the internationalization process.

Another factor of internationalization is the existing knowledge of the market and the products or services offered. It represents a key source of competitive advantage for the entrepreneurial firm competing internationally. With regard to the founder of the company, the founder’s experience in international markets is positively related with the speed of the internationalization of the firm.

Through an analysis of several small Swedish firms, Andersson et al. (2003) laid out a research which had two objectives:

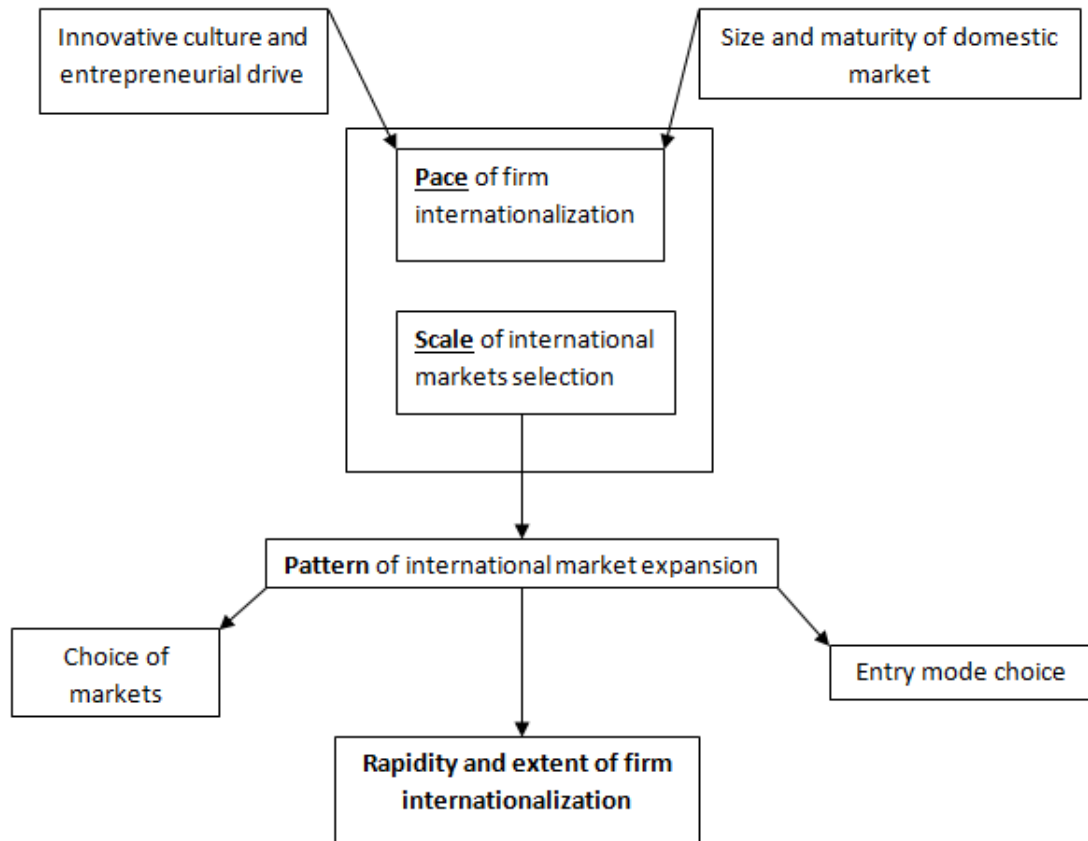
Investigate contingent factors that may explain why some small firms can be considered internationalized, that is, drawing a significant proportion of their revenues from foreign sales; and identifying factors that explain why some internationalized small companies continue to expand their international activities, while others not. (Andersson et al., p.29)

These authors conclude that some enterprises are involved in international activities due to the dynamic and fast-changing environment that drive them abroad.

The CEO’s vision related with his/ her age and the firm’s age are relevant factors to increase the firm’s internationalization. It is, they assume that both elements affect positively to the company internationalization.

The model proposed by Taylor and Jack in 2013 is configured around a global proposition: “the factors determining pace, scale and pattern can influence the rapidity and extent of firm internationalization” (p. 706). They use a multiple case study based on four firms, and propose the following model (Figure 2):

Figure 2. Model- proposed by Taylor and Jack- of the factors that affect the rapidity and extent of a firm’s internationalization



Source: Taylor M., Jack R., (2013). *Understanding the pace, scale and pattern of firm internationalization: An extension of the “born global” concept*. International Small Business Journal

The pace of firm’s internationalization depends on the size of the domestic market as well as the entrepreneur’s experience and vision.

According to the scale of international market selection, the threat of product imitation is a key factor that influences the range of internationalization of firms from non-high-technology industries. This statement makes us to think that building innovative and high quality products is essential to survive in foreign markets. Indeed, the inquiry address products characteristics needed to achieve success in the internationalization process.

When entering in international markets, ventures consider psychic distance. Taylor and Jack maintain that “born-globals predominantly enter markets with minor cultural differences based on the experiences and networks of the funders” (Taylor and Jack,

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“Born- global” firms and its accelerated process of internationalization. *CO2 Smart Tech* approach. 2013, p.716). In addition, the authors highlight that the ability of the studied companies to detect client needs had an important role in terms of access to new markets.

Knight and Cavusgil (2004) study the importance of the technological competences for the internationalization process. They conclude that companies that develop innovative activities are prone to success. Hence, in order to expand their activity to foreign countries, these companies should pay attention to improving their high-tech capacities.

Two elements stand out in this study. On the one hand the international entrepreneurial focus, and on the other hand the international marketing orientation. The authors state that companies with an international entrepreneurial focus tend to assume a differentiation strategy of the product. The reason is based on the scarce economical resources that these companies have. They aren't able to compete with firms already established in foreign markets because of their financial capability. Therefore, what they look for is to find a niche and try to get in through a high quality product.

The second one is referred to the analysis of consumers' behaviour, to product adaptation and development and marketing orientation to foreign trades.

This research also highlights that the youth of the founder and the small size of the firm are keys to get flexibility. Both factors allow a faster adaptation of the firm when unexpected changes occur. Furthermore, the relationship between companies and distributors is also decisive for a rapid internationalization.

To sum up, “at the strategy level, global technological competence, unique products development, quality focus, and leveraging foreign distributors competences all appear to be significant driver of superior performance overseas” (Knight & Cavusgil, 2004, p. 136).

Based on an analysis of four Spanish firms, Criado et al. (2005) identify the most relevant factors that difference the internationalization of the ventures. Some of them opt for a traditional progression when going abroad while others decide to enter in international markets rapidly.

According to these authors, a previous development in domestic markets is crucial for companies that follow a conventional standpoint in terms of internationalization. By

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contrast, “born-global” firms don’t follow the same focus due to the founder’s characteristics and his/her international experience. As they have a global world vision, their approach of the international market is clear since the beginning. However, research results conclude founder’s characteristics are not significant.

They find out that business and personal networks are important for the internationalization process of all companies. Focusing on “born-global” firms, the key issue is to develop these channels as fast as they can.

The accumulation of expertise in foreign markets is not excessively important for “born-global” firms. Criado et al. (2005) show that enterprises have benefited more from their partner’s expertise. This means that it is important to develop a faster learning process coming from the stakeholders. In addition, it has been proved that innovative products and high technologies are positive related to the firm’s internationalization.

These authors also studied cultural barriers and psychic distance as influencing elements. “Born global” firms undertake strategies that lead to well adaptation to global markets while more gradual internationalized firms tend to develop themselves taking into account “psychic distance or familiar demand-related issues” ( Criado et al., 2005, p.166)

According to Andersson (2004), the “psychic distance” concept is relevant in the internationalization process. To verify this statement, in 2004 Adersson carries out the analysis of cultural differences at industry level distinguishing between mature and high-growth industries.

Unexpectedly, it is more difficult to have success in psychically close markets than in markets with larger psychic distance. How is it possible? The explanation comes from the following assumptions. When entering in markets with big psychic distance, the company is conscious of the difficulty so they take measures to prevent it. Conversely, in close markets the confidence of having enough knowledge drives to non-investigation in market or industry casuistic.

The role of market research is also studied in this inquiry. While in mature industries traditional market research is a useful tool if it is developed by the company, in growing

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industries this research has no sense due to the fast changes of the environment. In growing industries “decisions should be mainly based on the firm’s internal strengths and resources” (Andersson, 2004, p.871).

Jones and Coviello (2005) handle three internationalization models understood as a “time-based process of entrepreneurial behaviour” (p.284). It is, they argue that time and the behavior of the entrepreneur are the main elements for internationalization: entrepreneur’s behaviour changes as time goes by.

They start developing a simple model, then they elaborate a general one where the key factors mentioned above are integrated in as core competences. Therefore, these authors demonstrate how there is an interdependence between the entrepreneur and the performance of the company- that is modified by the external environment. Moreover, this firm performance also depends on the innovation.

In sum, a company should assess its internationalization capacity from a good diagnosis of how the combination of all of these factors can be a chance for the growth of the organization abroad. The results coming from this diagnosis could support future decisions of the entrepreneur in an ongoing learning process.

According to the entrepreneur as a factor of internationalization, the relevant factors coming from the literature are “social capital” and “human capital”. The firm’s factors of internationalization are organizational structure, resources, product or activity and the entrepreneurial orientation.

The environmental factors covers the market and industry features. Eventually, firm's performance can be either achieved by financial measures or non-financial. The responsible of taking the decision of choosing the financial channel is the entrepreneur. His/her decision will depend on the previous expertise he/she has.

The third level introduced by authors is elaborating a precise model. Each specific model is based on a particular company so it is valuable to hold an exhaustive investigation.

Otherwise Bell et al., (2003) present a model that collects diverse alternatives in terms of small companies’ internationalization trajectories. They declare that

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internationalization is not a linear and unidirectional process since enterprises live different stages along the same path (Bell et al., 2003, p. 351). The main idea of the model is the importance of the strategic focus instead of the operational one.

Internationalization decision evolves from manager’s characteristics and mental model. The previous international experience combined with the internal and external environment of the firm makes internationalization choice arise.

Referring to external environment, the domestic and foreign market conditions, industry trends and economic cycle are the factors that affect to the internationalization decision. Talking about internal environment, it englobes human and financial resources of the company, management capabilities and knowledge-base.

These authors make efforts in explaining how important the knowledge intensity is for the internationalization decision. They state that the higher the knowledge is, the higher the competitive advantage obtained by the company will be.

Considering the risk aversion factor, Zahra (2005) studied the entrepreneurial risk taking in family firms. It is a key element in terms of firm’s survival and also in terms of success of the firm in the market.

Based on the agency theory, four variables are studied to find out the influences in entrepreneurial risk taking. Consequently, “founder’s service as CEO, founder’s tenure, family ownership stakes and family involvement in the company’s operations” are analysed (Zahra, 2005, p.27).

Over the analysis of 209 manufacturing firms from U.S.A., Zhara (2005) demonstrates how international entrepreneurship is promoted by family ownership while the maintenaince of the CEO in the company generates the opposite effect on innovation. Specifically, the study highlights the boundary that supposes the maintenance of the founder- who is at the same time the CEO of the company- to the firm’s development. It is, once the company is settled, they don’t try to look for new opportunities in different markets.

Finally, this author probes that “the higher the number of generations from the same owner family that are active in the company, the higher the firm’s focus on innovation”



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“Born- global” firms and its accelerated process of internationalization. *CO2 Smart Tech* approach. (Zahra, 2005, p. 37). Zahra justifies this statement in the youth of the new generations since they try to promote the “renewal of ideas” constantly.

Following the Zahra`s approach, Georgie et al., (2005) argue that “the ownership structures of small and medium-sized enterprises influence their proclivity to take risks and expand the sale and scope of internationalization efforts” (p. 210).

The study distinguishes between internal and external firm`s owners and claims that the first ones are prone to risk aversion. Internal owners are in essence the CEO and rest of board directors; external owners are institutional and venture capitalists. Why is CEO adverse to risk? Basically they are scared of a non successful performance, giving an important role to costs and their own careers.

Georgie et al. (2005) state that, with the presence of external owners in the company, CEO`s decision go towards increasing the scope and scale of internationalization of the company; therefore, taking more risks. What is clear in this research is that risk management is important for the internationalization of the company.

Finally, the study of Zucchella et al., (2016) focuses on niche market strategies and its influence in early and fast growth of firms when accessing to new countries.

The variables that characterize this strategy are: different customers groups, as well as their needs and the needed technology to satisfy them. One of the findings of the investigation is the existence of venture´s innovation through horizontal segmentation: the main objective of this strategic focus is to reach small groups of disperse clients in different countries but with similarities that supports the growth of the company.

Furthermore, there are several factors affecting to niche market strategy and consequently to internationalization process. Hence Zucchella et al. (2016) identify the following factors:

- a) Age and global vision of the entrepreneurial team.
- b) High quality products and innovation are key elements to achieve reputation in case of companies oriented to strict customers.

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c) Companies’ age. Youngest companies develop reputational assets while older companies seek product diversification.

We summarize in Table 1 the variables and key factors of the accelerated internationalization of firms, according to the literature review.

Table 1. Influence of different factors over the internationalization process of a firm.

VARIABLES		KEY FACTORS	AUTHORS
<b>Entrepreneur</b>	Type of entrepreneur	CEO’s youth	<ul style="list-style-type: none"> <li>Andersson, Gabrielsson &amp;Wictor (+);</li> <li>Knight &amp; Cavusgil (+);</li> <li>Zucchella, Hagen &amp; Denicolai (+)</li> </ul>
		Knowledge and previous international experience	<ul style="list-style-type: none"> <li>Oviatt &amp; McDougall (+);</li> <li>Taylor &amp; Jack (+);</li> <li>Criado, Urbano, Rialp &amp;Vaillant (-);</li> <li>Jones &amp; Coviello (+);</li> <li>Bell, McNaughton, Young &amp; Crick (+);</li> </ul>
		Personal and organizational networks	<ul style="list-style-type: none"> <li>Oviatt &amp; McDougall (+);</li> <li>Knight &amp; Cavusgil (+);</li> <li>Criado, Urbano, Rialp &amp;Vaillant (+);</li> <li>Jones &amp; Coviello (+);</li> </ul>
	Global management vision	Risk management	<ul style="list-style-type: none"> <li>Jones &amp; Coviello (+);</li> <li>Zahra (+);</li> <li>George &amp; Wiklund &amp; Zahra (+)</li> </ul>
		Innovativeness	<ul style="list-style-type: none"> <li>Knight &amp; Cavusgil (+);</li> <li>Jones &amp; Coviello (+)</li> <li>Zahra (+);</li> </ul>
<b>Company</b>	Product	Creation of value added: innovative and high quality products	<ul style="list-style-type: none"> <li>Taylor &amp; Jack (+);</li> <li>Knight &amp; Cavusgil (+);</li> <li>Criado, Urbano, Rialp &amp;Vaillant (+);</li> <li>Zucchella, Hagen &amp; Denicolai (+)</li> </ul>
	Resources	Management of intangible and singular resources	<ul style="list-style-type: none"> <li>Zucchella, Hagen &amp; Denicolai (+);</li> <li>Knight &amp; Cavusgil (+);</li> </ul>
	Entrepreneurial orientation	International niche specific strategy	<ul style="list-style-type: none"> <li>Knight &amp;Cavusgil (+);</li> <li>Zucchella, Hagen &amp; Denicolai (+)</li> </ul>
		Client orientation: customers relations of proximity	<ul style="list-style-type: none"> <li>Taylor &amp; Jack (+);</li> <li>Knight &amp; Cavusgil (+);</li> </ul>
		Psychic distance	<ul style="list-style-type: none"> <li>Taylor &amp; Jack (+);</li> <li>Criado, Urbano, Rialp &amp;Vaillant (-);</li> <li>Andersson (-)</li> </ul>

		Age of the firm	<ul style="list-style-type: none"> <li>• Andersson, Gabrielsson &amp; Victor (+);</li> <li>• Knight &amp; Cavusgil (+);</li> <li>• Zucchella, Hagen &amp; Denicolai (+)</li> </ul>
<b>External Environment</b>	Market characteristics	Dynamic and fast-changing environment	<ul style="list-style-type: none"> <li>• Andersson, Gabrielsson &amp; Victor (+);</li> <li>• Andersson (+);</li> <li>• Bell, McNaughton, Young &amp; Crick (+);</li> </ul>
		Size of domestic market	<ul style="list-style-type: none"> <li>• Taylor &amp; Jack (+);</li> <li>• Bell, McNaughton, Young &amp; Crick (+);</li> </ul>

Source: own elaboration

## 1.2 The Model of Ten Strategies of Internationalization

The objective of the model is to define the most suitable internationalization strategies for a firm in the internationalization process.

Following the Villarreal's approach, the company's internationalization is understood as

A corporative strategy of growth based on international geography diversification, through a dynamic and progressive process in a long-term period that gradually affects to the different activities of the value chain and also to the organizational structure of the company. This process also requires a continuous commitment of its resources and capacities in the international environment, and it's based on an increasing knowledge (Villareal, O., 2008, p. 2).

The model of ten strategies of internationalization is supported by a theoretical review of the literature of internationalization and the multinational companies (Villarreal, 2005, 2007; Villarreal et al., 2006). This model is also based on several real experiences collected by personal interviews to CEOs of multinational companies from País Vasco (Villarreal et. al., 2004) and a scientific research done through a multiple case study.

Despite of the fact that the general model of strategy direction for the internationalization of the company includes four phases, the study that Villarreal carried out lies on the third one. The first step is the international strategy analysis: in order to achieve a vision of the company's environment, firms collect internal and external data and develop SWOT analysis. The second step is to determine the objective's system of the international activities. Once these objectives are clearly defined, the third step consists in formulating

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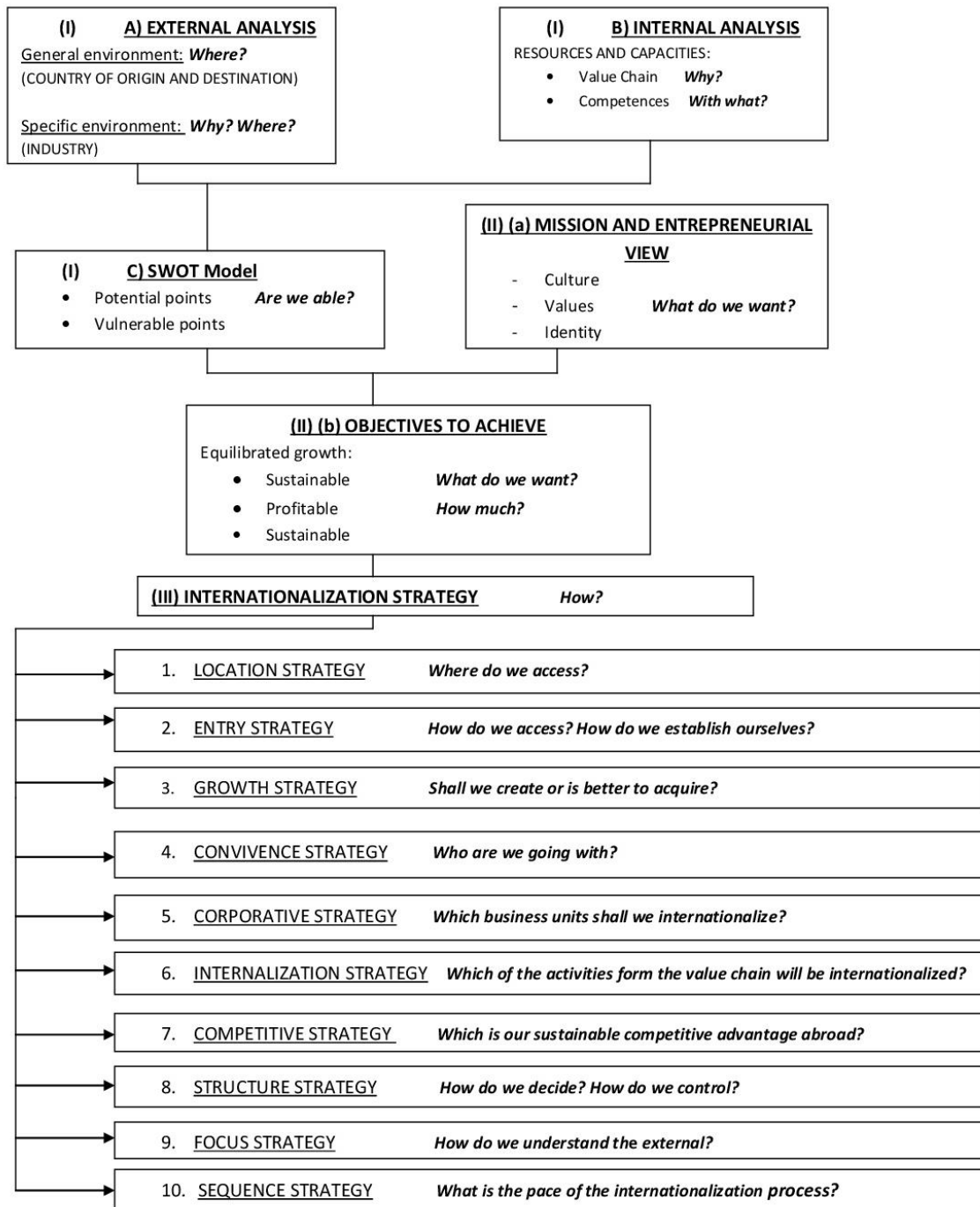
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the international strategy: how the company develops its internationalization process among different strategic areas, taking into account the interdependence of all formulated strategies. As we have introduced before, the model of the ten strategies of internationalization is based on this phase. Finally, in the last step firms implement the international strategy.

Figure 3 shows the model of ten strategies of internationalization.

Figure 3. Model of Ten Strategies of Internationalization

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Source: Villarreal O. (2008). *La internalización de la empresa: El modelo de las diez estrategias*. Revista internacional Administración y Finanzas

Using this model, companies should answer several questions in order to define its internationalization strategy. Furthermore, first two phases of the general model of strategy direction proposed by Villarreal are also included in the model: doing an

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international strategy analysis and determining the objectives of the international activities that will be performed.

### 1.3 Theoretical propositions related to the model of ten strategies of internationalization

The objective of this paragraph is to create a set of propositions that link the key factors of the accelerated process of internationalization with the model of ten strategies of internationalization. In the following sections we will put into practice these proposals since we will verify them in *CO2 Smart Tech* venture.

Hence, we define the following propositions of study, according to the previous determinants of internationalization:

P1: The younger the entrepreneur, the more based on external growth will be the internationalization process.

P2: The more pre-established personal networks the entrepreneur has, the more accelerated the internationalization of the company will be.

P3: The more accumulated experience in international markets the entrepreneur has, the lesser based on partnership strategy will be the internationalization process

P4: The younger the company is, the more based on external growth strategy the internationalization process will be.

P5: The more opportunities exist in close markets, the lesser decisions of internationalization will be taken in far markets.

P6: The more dynamic and fast- changing the environment is, the more accelerated the internationalization process will be.

## 2. Method

There are diverse ways of developing social science research, being the case study one of them. The advantage of this method is the use of multiple sources of information, with the objective of data triangulation.

To explain this model we based on two researchers with similar approaches. Thus, Yin (1989) sets forth a clear definition of what case study research is:

A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real- life context, especially when the boundaries between phenomenon and context are not clearly evident. It copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence- with data needing to converge in a triangulation fashion- and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis (p.18).

On the other hand, Villarreal (2008) reinforces this concept. He states that case study research is useful when the objective is to understand a real phenomenon considering each meaningful variables and also when the objective is to explore or evaluate complex situations.

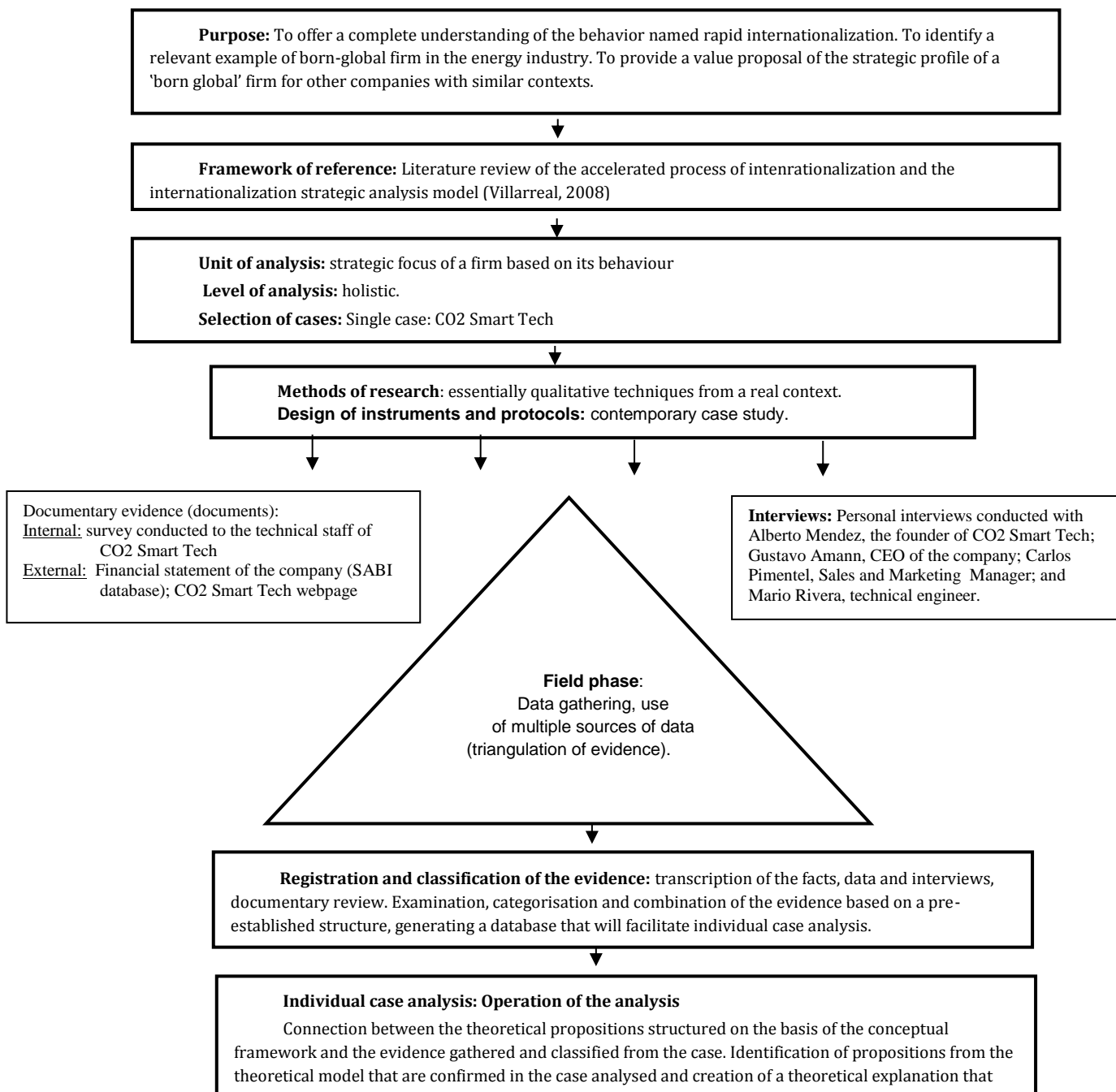
Many evidence sources are used in case study research, either quantitative and qualitative ones simultaneously. As qualitative method, there are some weaknesses that have caused that this research method has not been completely accepted among the scientific Spanish community (Villarreal, O., 2008, p.2). The main drawback is its limitation in the reliability of the results and also in generalizing its conclusions. In addition, Yin (2009, p. 15) adds two more: “a third complaint about case studies is that they take too long and they result in massive, unreadable documents”; the fourth one comes by the hand of randomized field trials or “true experiments” that aims to establish causal relationships, one thing that case studies cannot address.

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There are also other issues related with the bad praxis of this method. Not following systematic procedures, allowing equivocal evidence or biased views to influence the direction of the findings and conclusion, and the inability to apply statistical inference are the main ones.

Our case study is supported by a rigorous design proposed by Villarreal (2008). The model of the method is specified in nine temporal sections (Figure 4) as it is revealed in the following figure:

Figure 4. Methodologic design





<p><b>Rigour and quality of the study:</b> validity (constructive, internal and external), reliability and consistency.</p> <p style="text-align: center;">▼</p> <p><b>General composition and conclusions:</b> aims of the study and consequent report with regard to the validity of the research proposals and integration and completion of the theoretical framework on this phenomenon.</p> <p><b>Implications of the research</b> at academic, industrial and government level.</p>
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Source: own elaboration

Some of these sections require attention so in the following lines we present some clarifications. The first stage illustrates the need of establishing the purpose and the objective of the research. Our investigation is oriented to the analysis of a real phenomenon: an early and accelerated process of internationalization. It characterizes specifically the firm on which we focus our study; however, this phenomenon is currently applicable to several companies. Therefore, our objective consists in defining key elements that generate an accelerated process of internationalization, originating what is denominated New International Enterprises.

We chose the theoretical model based on the literature review in the second stage. In the third stage we defined the unit of analysis and selected the case study. Regarding to the study case selection, it is important to mention that there are two variants in this type of research, single and multiple case studies. Our aim of studying a specific situation, focused on CO2 Smart Tech business, is the rationale that has driven us to choose the development of a single case (Villarreal and Landeta, 2010, p.8).

Furthermore, our single-case study involves more than one unit of analysis, so it will be defined as an embedded case study design. Throughout this work all our efforts will focus on avoiding keeping in mind only one subunit level, forgetting our goal of global analysis of the firm; thus, we shrink from the main drawback of this type of research (Yin, 1989, p.52).

Eventually, it is important to stand out that we support the diagnosis of the internationalization profile developed in this work in several sources of information, both primary and secondary. In fact, we must emphasize the obtaining of primary information from direct interviews to several managers of the company. Hence, our goal is using

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multiple sources of evidence to get “triangulation element” i.e., based on the coincidence  
of different sources we try to claim that a fact is reliable (Yin, 1989).

## 3. Internal analysis of the case study: Smart Tech CO2

### 3.1. Company overview

CO2 Smart Tech SA is a company located in Oleiros, A Coruña (Spain). Its business consists on developing innovative systems for the efficient energy management.

The main activity developed by the company has been modified throughout its seven years of life. It was set up on 31st of May 2010, by only two members: Alberto Mendez - as majority partner- as a mechanical engineer and Mario Rivera, as an electrical engineer. Interviewing Alberto, he claims that “when CO2 Smart Tech was settled down, its business plan had a different standpoint compared to what we have finally achieved” (February, 2018).

Its initial business plan was developing ad-hoc studies about the energy consumption of companies. The change comes when they realize that information they were giving to clients was not as much useful as they could give. The idea of providing information about the energy consumption automatically arises. In this way, Mario Rivera summarizes their career path:

We started as an energy consultancy, developing energy studies. We realized that the information we were providing to clients was useful and useless at the same time, since it has no sense in generalizing information you get in one week to one year. So that is how the idea of creating this system emerges (February 2018)

This new approach of the company in terms of creating a software needed the collaboration of Pablo Mendez. He is Alberto`s brother and a computer engineer. CO2 Smart Tech team was formed by three professionals from different specialties. Their common objective was to offer companies the data about their energy consumption when

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they needed and for what they needed. It was a real change in the common behavior of the industry because they aimed to sell the software as a strategic tool for industries.

By 2017 the staff of CO2 Smart Tech increased to twelve people, for technical design and support commercial tasks.

In 2017 there was an important change in the leadership of the company. Alberto, the founder, receives an important offer of a big company to manage all issues regarded with the energetic control. Due to the terms signed with this new company, he has to leave the company and sell his participation. In this moment, Gustavo Amann takes over the business management of the firm, becoming the CEO (chief executive officer). The tie between him and the founder is a friendship relationship from their university period in Madrid. Throughout this management transfer Alberto, in legal terms, is completely unlinked to CO2 Smart Tech.

Since the 1st of June 2017, the organizational structure of the company not includes Alberto. Current CO2 Smart Tech partners are: Gustavo Amann, Pablo Méndez, a third company from the owner of Cofrico, Alberto`s father and a partner from Bahía Coruña called Jorge.

Alberto took months to decide leaving the company in other`s hands. Which were the reasons that drive him to leave the company? In essence, the main reason was the innovative product he wanted to develop in his own company. He presented the project of the new software to a huge potential client, Pontegadea, the Amancio Ortega`s real estate agency. The chance of introducing the idea to Pontegadea came from the previous tie between Alberto Mendez and the CEO of Pontegadea.

Once introduced the project, Pontegadea`s managers detected it as a strategic need which must be developed in their offices. They offer Alberto the chance of leading the project. Hence, he became the global technical manager of the firm. And this decision broke him out of his own company.

At the beginning of 2017, CO2 Smart Tech had two offices, one (headquarters) in Oleiros and other (R+D division) in Bueu (Pontevedra, Spain). The decision of expanding the company to Pontevedra comes as a result of the family relationship between Alberto and Pablo Mendez, director of the R+D division. Pablo combines his activity in CO2 Smart

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Tech- as a freelance- with being partner of Nerade. Nerade is a company settled down in Pontevedra which main activity is the web and graphical design.

The only product of CO2 Smart Tech is an energy monitoring software. Additionally the firm provides a secondary activity, energy audit services. The business of the firm covers both national and international territory beginning its international presence two years after the firm`s constitution- in 2012.

In 2017, CO2 Smart Tech had developed its activity in seven foreign countries: Portugal, Germany, Arabic Emirates, USA, El Salvador, Panama and Dominican Republic. This is a sign of the competitive advantage of the firm abroad, apart from the good performance in the domestic markets with clients: Celta, Isabel, Gestamp, Pescanova, Altia, Cirsa, Pontegadea...

To set up the company they had an investment of a high capital quantity. It consisted in social capital, acquired by traditional methods such as family and friends, and also by asking for granted loans from public entities.

The social recognition of the new firm was supported by the award to the best business initiative in ICT sector from Galicia (2015) and the award to the best entrepreneur project (2014).

### 3.1.1. PRODUCT.- “COST TEM” SOFTWARE

CO2 Smart Tech commercializes the service of monitoring and energy management through an innovative software. It was developed by the internal technicians of the firm. This software shows the energy consumption of companies` facilities during the productive process, offering detailed information that links the energy consumption with the expenditure behavior of the company, detailed by cost center or per unit produced. In sum, this software provides precise indicators to track these procedures and take better decisions.

Therefore, this system denominated “Cost Tem” generates savings opportunities and ensures the long-term profitability of the different measures adopted. The main functionalities are the following:

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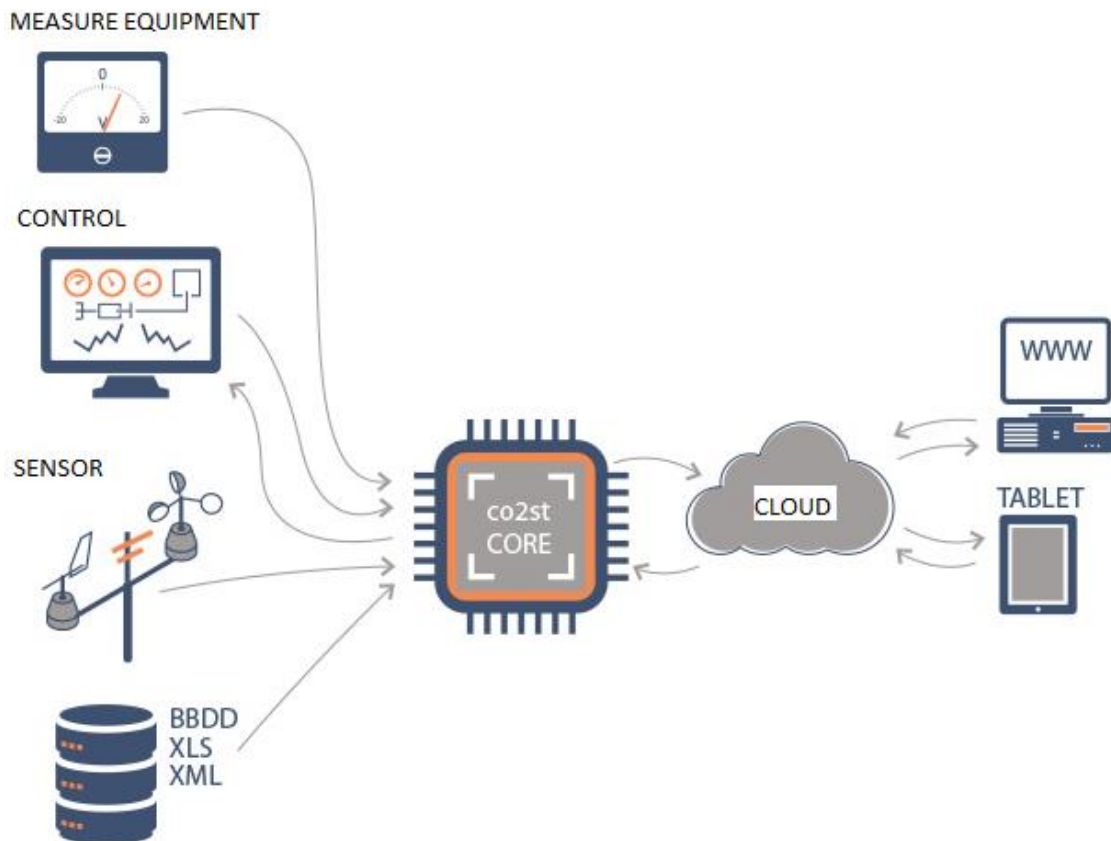
- To work in real time showing values and trends.
- To define KPI'S (Key Performance Indicators) for improving efficiency.
- To perform historical charts and graphics, permitting analyzing the evolution and comparing different variables.
- To generate and send immediate alarms due to deviations from the operating patterns expected at each moment.
- To generate reports and export all the information to multiple formats.
- To elaborate baselines dependent on multiple factors, in order to use them to predict consumption and get savings. Furthermore, the baselines allow simulating the behavior of the facilities in different scenarios.

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### 3.1.2. COMMERCIALIZATION PROCESS

Figure 5 shows a representation of the software operation.

Figure 5. Operating process of Cost Tem Software



Source: CO2 Smart Tech, (2017). Cost Tem system architecture [illustration]. Available at: <http://www.co2st.es/software-co2tem/>

The commercialization process of CO2 Smart Tech begins when there is a first contact with the client. Carlos Pimentel, the commercial manager of the firm, is in charge of this task. He contacts with clients and shows Cost Tem platform to them. However, due to its reduced size and its industrial focus, this company is quite reactive in contracting with clients.

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After this first contact, a technical team visits the facilities of the potential client. Mario and Esteban, the engineers in charge of the technical area, are the responsables of this job. The objective of this visit is to identify the criteria and devices object of future measurements. In this point, the client takes part: it gives information about points, machines and processes that are important in the company development. It is important to highlight that sometimes asking clients about their facilities is inefficient. According to Mario, “many times they do not even know their facilities”. That is why technicians need a prior knowledge of the systems in the market.

If the client agrees with the economic agreement, technicians install the measurement equipment.

In the phase of installation, the technical team of *CO2 Smart Tech* adapt the measurement equipment to the client`s system; however, they carry out the installation of different equipment as long as they have some characteristics. Alberto Mendez stands out that “in the electrical world, electrical equipment is standardized, so that makes our choice of equipment easier” (February 2018).

It is, the firm does not have any specific binding agreements with suppliers, i.e., it doesn`t work with an exclusively brand. On the one hand, not working with any specific dealer allows *CO2* to adapt better the service to the client`s requirements; from the other hand, the firm can pay transaction costs due to opportunistic behavior of unknown suppliers.

Managers don`t worry about it since they are confident with the quality of their system. However, they have suffered its drawbacks once. It was the case of the installation in Germany: “because of the change of the building`s owner, the new one decided to remove our service taking advantage of the measure equipment installed previously” (Gustavo Amann, CEO of *CO2 Smart Tech*, December 2017).

### 3.1.3. SOFTWARE INSTALLATION

The installation in national territory is always made by the same person. He is a freelance technician who has a permanent tie with *CO2 Smart Tech*. In case he is not available they turn to other technicians.



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Referring to installation abroad, firm’s policy includes two options. First, the client takes charge of the installation. In that case, the only mission of CO2 Smart Tech is to send configured devices without requiring a displacement of any employee to the foreign country. Second, CO2 Smart Tech subcontracts the installation of the product. They request local companies to introduce some of their suppliers. After an interview with at least two suppliers, CO2 Smart Tech chooses one.

Through that way, technicians make the first visit to client’s facilities. Next step comes by indicating to the subcontracted company, which is going to install the measure equipment, where to install it. Finally, CO2 Smart Tech technicians go again to the client’s facilities to switch on the system and control everything is correct.

From the point of view of the CEO of the firm, subcontracting the installation to local suppliers has the following advantages:

- CO2 Smart Tech technicians don’t speak English so it is easier when communicating with the client.
- In case any problem arises, it is easier to solve it by local suppliers because of the distance.
- Most of the times is the local company the one that provides the necessary equipment to implement the installation. In this way, the guarantee of the devices is given by the local supplier.

#### 3.1.4. DATA STORAGE

Data about consumption and expenditures can be processed in two different ways:

- Cloud storage, so both the client and CO2 Smart Tech have access to them. This option provides a double control over data management.
- Local storage, so data are only compiled in the client’s server.

Based on the characteristics of the data collected on-line, managers are able to design new policies and take decisions in order to optimize facilities’ expenditure and to increase efficiency in the production process.

### 3.1.5. PRICE

There are not fixed prices for the service provided. CO2 Smart Tech distinguishes two ways of fixing prices that vary depending on the selected method of data storage. In the first case, cloud storage, clients pay monthly, quarterly or annual fees. This is the most frequent way of payment. The final price is established according to the difficulties of installation as well as the type and number of measurement points that are set up: 1) electrical measurement points, responsible of the measurement of magnitudes such as voltage, power and intensity; and 2) accessory measuring points, which refer to other parameters such as water, steam etc. The more points of measurement are installed, the higher the price of the customer's quota will be.

Otherwise, when the client chooses the local storage of data, he has to pay the software licenses. This payment also increases depending on the number of points of measurement installed.

In sum, the following factors that define the implantation cost are:

- The type of equipment: Which equipment do we use?
- The number of integrations: Which parameters do we want to integrate?
- The integration routes: Can we use electrical elements of the clients' facilities or do we have to install them?

In addition, there are maintenance costs added to the ones described before.

### 3.1.6. TARJECT GROUP

Choosing a target group was not the main concern when setting up the company. They focused on developing the software. Alberto Mendez supports this statement: “this company was born with the vision of the tool we wanted to create but not with the vision of who the users would be or wherever they would be” (February 2018).

As a result, any of the three managers consulted- Carlos, Alberto and Gustavo- clearly defined the target group of clients. However, all of them agreed with the idea of industrial

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companies are the most favorable to acquire this kind of service. According to Carlos Pimentel: “the more complicated or complex the production process is, the better for us. Thus, saving opportunities arise and Cost Tem software is more effective” (December 2017).

In fact, they have figured out a kind of customer profile: enterprises from industrial sector with hard productive processes, where more savings opportunities arise. They have developed a basic rule to detect companies that fulfill these features:

“Those with an invoicing equal or superior to ten million Euros, which means an approximate energy consumption of 3%. That is, CO2 is interested in companies with a turnover higher from 300.000€” (Carlos Pimentel, Sales and Marketing Manager, December 2017)

Despite of working on it, in December 2017 their customer portfolio was formed by 65% of companies belonging to the services industry and 35% of companies belonging to the industrial industry.

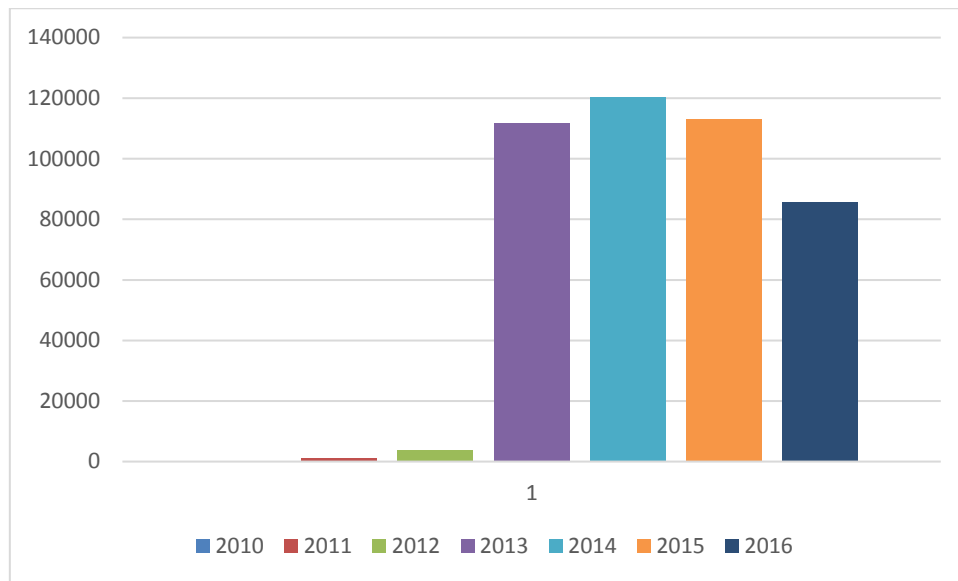
### 3.1.7. FINANCIAL STATEMENTS

The initial investment to create the company overcame 300.000 euros.

As we have introduced before, the financial resources were two. On the one hand, a 100.000€ loan which was granted by ENISA. It was complemented with some grants from Science and Innovation Ministry. On the other hand, own investment was provided by Alberto, his friends and family. Therefore, banks entities didn't play a role in the firm's funding.

The vision of the founder is that CO2 is supported by intangible assets (internal software, expertise of the employees, alliances with clients). Basing on the history of the company, Table 2 indicates the veracity of Alberto's statement. First years, from 2010 until 2012 intangible assets are insignificant for CO2 Smart Tech. However, from 2013 onwards they take importance in annual accounts. The reason is the development of Cost Tem software, the only product they commercialize.

Table 2. Evolution of intangible assets from 2010 until 2016



Source: own elaboration

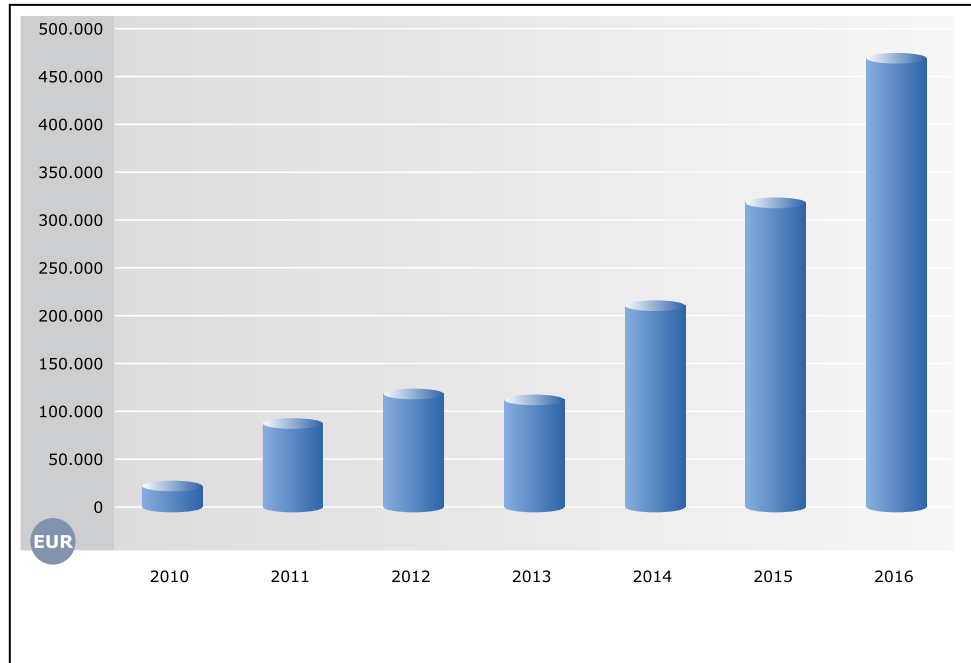
In this point a conclusion is clear: the self-financing of the company during its life was a key to its development. Alberto Mendez states: “As we generate a higher level of income we invest in hiring more people” (February 2018).

In 2016 the firm achieved a positive return on investment ratio (ROI) and return on equity ratio (ROE). In general terms, this provides a beneficial situation within the company and also for its owners. An evidence of this beneficial situation is the evolution of the income. As Table 3 indicates, the income suffers an exponential growth mainly in 2015 and 2016:

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Table 3. Operating income of CO2 Smart Tech from 2010 until 2016



Source: SABI (2017). CO2 Smart Tech Annual Accounts. [Data Base]. Available at: [https://sabi.bvdinfo.com/Search.QuickSearch.serv?\\_CID=1&context=15EQED3F6LXH6GF&loginpostback=true&ssotoken=lrUCenYbaEPp6SSrNYIV8g%3d%3d](https://sabi.bvdinfo.com/Search.QuickSearch.serv?_CID=1&context=15EQED3F6LXH6GF&loginpostback=true&ssotoken=lrUCenYbaEPp6SSrNYIV8g%3d%3d)

In 2017 there is a big growth opportunity. CO2 Smart Tech signs an agreement with Gestamp. It offers CO2 Smart Tech the opportunity of installing the software of energy consumption control in their facilities in USA.

Gestamp is an international group engaged in designing, developing and manufacturing metal elements for automobiles. They collaborate directly with car manufacturers, being the suppliers of the pieces. Their business line consists on giving support to all productive process, from the product design up to the supply in the customer's assembly lines.

It is present in almost all over the world- excluding Australia and Africa-, and it has 36.000 employees and about 100 plants. Annual consolidated accounts from the parent company, “Gestamp SA” show the wide scale of this venture. It has an operating income of 7.673.939 euros in 2016.

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CO2 Smart Tech negotiations with Gestamp weren't easy. The projects are financed to 4 years. Gestamp pays the first year in advance, but not the remaining three years. It is, the company requires CO2 Smart Tech to assume the installation cost of three years. Gestamp will only pay the final amount at the end of the installation.

Moreover, Gustavo Amann refers to an added problem, the payments from Gestamp: “payments are made in dollars, so currency fluctuations can be a drawback” (December 2017).

Despite of the fact of so hard conditions, it was a big opportunity. It was a big client with a huge potential external market. This agreement breaks the initial financing policy and increases the level of indebtedness. In 2017 CO2 Smart Tech maintains a debt ratio of 50`71%. It leaves the firm vulnerable to future economic contractions.

To face this situation, CO2 Smart Tech has requested five loans to Spanish credit institutions. They have turned to a mutual guarantee company as a guarantor of a loan granted by Bankia.

### 3.1.8.      MARKETING

The managers of CO2 promote the company mainly through traditional methods, by phone and mailing. This means a direct contact with clients. As Alberto Mendez claims, “we focused on the final client, the one who we are interested in” (February 2018). This method is complemented with the information available in the CO2 website where there is a contact section and an access point for Cost Tem user`s platform.

Inside its marketing strategy there are different partners. To this extent they have one in Valladolid and another in Vigo. In Coruña they have been trying to get an agreement with a company, but they haven't achieved it yet. In 2018 they have reached an agreement with the Technical Institute of Castilla y León -ITCL. From the offices of the company, they consider it as a beneficial agreement. As Alberto Mendez analyzes “they have an investigation team so they contribute with knowledge. It is a strategic business to advertise CO2 Smart Tech” (February 2018).

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Asking Gustavo Amann, the current CEO of the company, he states that some partners agreements are going to be reconsidered in a near future. The main reason is that he doesn't find any advantage in them, since they don't provide any clients to the company.

The corporate image of CO2 Smart Tech is managed by Nerade, the company owned by Alberto's brother. In addition, press releases and attendance at certain events or trade fairs are other alternatives for which the company is committed, on account of it is a difficult industry to advertise.

### 3.1.9. CUSTOMER SERVICE

CO2 Smart Tech offers a complementary business line of consulting service based on the development of expert reports with recommendations to increase the efficiency in energy consumption for clients- under request. In the case of the client has chosen the option of local data storage they have to provide access permits for the technicians of CO2 Smart Tech.

The company also offers a control and maintenance service once the system is implemented. It is a server dedicated specifically to this function that belongs to Altia, a high availability center.

Through this service, every client from everywhere can has access to check its equipment. The data given is in real time. The percentage of effectiveness, ensured by Altia to CO2 Smart Tech is 99.99% of one year's time; therefore, the software can break only 8 hours a year.

When clients choose the modality of cloud storage, there is a double control: both by the client and by CO2 technicians. In this way, information storage function stands out.

In addition, it is being developed a control function more specific. Managers want clients being able to control its facilities through CO2 Smart Tech website. There is a control function is added to the monitorization one. This purpose needs a superior development:

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“Reading information is easy; however, when you have to do a change in your facilities from remote distance you need to have evidence it is done under some security constants” (Mario Rivera, technical engineer of CO2 Smart Tech, February 2018).

In 2017 the company implemented a new policy to encourage the use of the system by clients. After the installation, CO2 technicians prepare some free reports or offers additional training in order to incentivate clients to get a better knowledge of the tools and utilities of the system.

### 3.1.10. GROWTH PROSPECTS

In 2017, the agreements signed with clients have generated the growth of the firm and as a consequence of this, new needs of human capital have arisen. Managers are aware of it, being favorable to this growth. However, they are cautious, since this objective must be supported by economical resources:

“Future approach is to expand engineering department. The idea is to continue growing, but I do need to have the security of being able to pay salaries” (Gustavo Amann, CEO of CO2 Smart Tech, December 2017)

Talking about setting up a permanent establishment abroad, managers are conscious that it would mean exercising a new method of attracting customers as well as expanding the business. It is, direct ties with foreign clients would be created.

They have ordered an internationalization study to OBZ- a consultant company. Alberto Mendez and Gustavo Amann have the same point of view. If they had to establish a delegation abroad, they would choose USA. However, despite being an attractive market, it is quite complex to operate in: “USA is a huge market but difficult to work in. My experience in Pontegadea has given me the chance of knowing how the relationship with suppliers is” (Alberto Mendez, founder of CO2 Smart Tech, February 2018).

Both conclude that if the expansion abroad takes place, it won't be in a near future. The reasons are two. First because of the organizational design of the company and the way the enterprise develops its activity. CO2 Smart Tech has performed installations abroad



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without having to go to clients’ facilities. It is the case of El Salvador where they sent configured devices being the client responsible of installing them.

Second, the idea is refused mainly due to the economic situation of the company. As we have analyzed in the previous section, its origin comes from the loans they have been forced to request as a result of getting Gestamp as a client. It does not leave many possibilities of additional indebtedness.

Managers have the same short-time approach over the R&D division in Bueu, Pontevedra. Alberto considers factible to maintain its localization. First because his brother Pablo Mendez, “imposes” it as a requirement. Second, because of the development of the new version of the software doesn’t requires it. The change is not necessary since the main task is commercializing the product, so computer engineers have no charge over it: “They are focus on what they have to prepare to implement and transform the system in a simple one. Commercializing it is the key” (Alberto Mendez, founder of CO2 Smart Tech, February 2018).

Nevertheless, referring to a long-term approach, the founder assumes that the rejection to the change could be a problem. He assumes that it could turn into a drawback in case the company would have to hire more computer engineers since it is an area not well-communicated and not everyone could be willing to move there.

## 3.2. Internal analysis

We have developed the internal analysis of CO2 Smart Tech using two academic tools. First, our objective is to identify assets that generate competitive advantages for it in a sustainable way. To achieve it we employ VRIO framework, proposed by J. B. Barney in 1977.

Secondly, we have analyzed the value chain of the company, following the model configured by Michael Porter in 1985. We also expanded this model through the analysis of the integration between the value chain of the company and the value chain of its main client, Gestamp.

### 3.2.1. VRIO framework

The acronym VRIO corresponds to the initials of value, rareness, imitability and organization. A resource or capability creates a competitive advantage to the extent that it is valuable, rare, costly to imitate and the firm has a suitable organization to exploit it, being translated this edge in high economic profits (Campos, E., & Ortega, P., & Sanchez, M.P., 2006, p. 142).

This model stands four questions one must ask about a factor to determine its competitive potential:

- 1) “The question of value: Does a firm’s resource enable the firm to respond to environmental opportunities and threats?
- 2) The question of rareness: How many competing firms already own such valuable resources?
- 3) The question of imitability: Do firms that do not own a valuable resource face a cost disadvantage compared to firms that already possess it?
- 4) The question of organization: Is a firm organized to exploit the full competitive potential of its resources?” (Sánchez, R., & Heene, A., 2004, p.33)

Beginning with the resources analysis, Campos E. et al. (2006, p.141) clarify that “a resource is any production factor available for the company (Fernández S., 1993)”.

In this sense, Barney and Herstely (2006) distinguished two types of resources: tangible resources, which encompass financial and physical ones; and intangible resources that comprise human and organizational ones.

CO2 Smart Tech supports its competitive positioning in intangible resources. The stock of human capital includes the knowledge and previous experience of managers and technicians, a high- qualified team. Alberto Méndez the founder of the company, worked in several companies of the energy and building industries with international presence- such as Fenosa or Fadesa- before creating this company. Gustavo Amann, the current CEO of the company is specialized in technical management of project development in financial entities; so his knowledge and management abilities also contribute to lead to the current firm’s growth in the domestic and international markets.

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This management team is complemented with a notorious qualified staff. As we mentioned before, Carlos Pimentel leads marketing and sales position. During its professional experience, he has been in charge of similar tasks but within the HORECA channel. He has faced a new professional challenge: start from scratch in energy sector in general and with Cost Tem in particular, with the objective of finding the best way of transmitting it to potential clients. His capability of adaptation is high.

Pablo Mendez, as a computer engineer, has seven years of experience in the industry. He was the manager of Nerade. His path has let him to transform Alberto`s ideas in the reality of a software. On the other hand, Mario Rivera and Esteban perform the technical tasks. They are industrial engineers so their academic studies make possible to collect data from the client`s facilities- through measure equipment- to Cost Tem software.

The rest of the team is composed by four programmers- in Bueu- and by Gema Rodriguez, who is in charge of the economical and administrative department.

In conclusion, human resources hold by the company are a valuable asset. Its employees have specific academic training and determined features, driving them to a rigorous command in the discipline. Thus, *CO2 Smart Tech* takes advantage of employee`s knowledge. The development of Cost Tem software is the main evidence of it.

We mentioned the pros of this asset, based on the developed system that lets the company to compete in the market. However, it also has its cons: the high quality of the employees could be a risk for *CO2 Smart Tech*. Competitors may be willing to assume transaction costs- derived from offering higher salaries- for the recruitment of the firm employees. This behavior would be plausible in case competitors expect to get a higher profitability.

If it occurs, the cost of replacing an employee or the difficulty of finding a worker with the same characteristics is elevated for *CO2 Smart Tech*. It probably would require investment in both capital and time.

This approach lets us claim that the intellectual capital stored by the staff is an asset that supports the competitive advantage of *CO2 Smart Tech* in the market: it is a valuable and rare resource in the market, costly to imitate and the firm is organized to exploit it.

Another key resource for the company is Cost Tem software. To create it, managers were able to detect market needs and develop an innovative product to satisfy them. The software features, in their opinion, stand out in the market:” the system is better compared to others: the functionalities it has are superior”. (Gustavo Amann, CEO of CO2 Smart Tech, December 2017).

The value of this resource is essential, erecting as the most important asset of the company. In spite of the fact that it is not patented- the managers don´t think it could be possible-, it is an element exploited and controlled only by the company. Its specific attributes qualify it as costly to imitate by rivalry. From the organization point of view, the firm implements strategies to the exploitation of the resource- such as developing reports to incentivate clients to use the system.

In sum, this software is rare in the industry, difficult to imitate and costly of transferring. This bring us to denominate it as a sustained competitive advantage.

The organizational capabilities the company has are also relevant. Recently, the concept of “dynamic capability” has emerged, and it has been defined as “processes, activities and business functions that integrate, liberate, reconstruct and configure resource in order to drive the company to operate in high-changing markets” (Campos E. et al., 2006, p.170).

CO2 Smart Tech operates in a market where technological obsolescence is a factor of great importance. Therefore change and renewal are frequent.

Based on it, we can remark the innovation capability of the company throughout he organizational design that lets a rapid development of new functionalities. Again, we base this skill on the characteristics of its product. They consider themselves as pioneers in developing a real-time energy monitoring software: “we developed a monitorization software with real- time data collection, something that our competitors didn´t offer” says Carlos Pimentel (December 2017). From R&D division in Bueu (Pontevedra) they promote this capability.

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As we have introduced before, they try to get clients from industrial markets. Those clients focus on energy control consumption since it is one of the most strategic issues when talking about profitability: a small change in the production system can cause high savings. Therefore, CO2 Smart Tech looks for integrating its value chain with the clients one.

This lead us to claim that the company prioritizes the ability of “anticipating to change”. An evidence is the improved version of the software they are currently working on. They are developing a system completely adapted to users. What they are looking for is to move from simple data collection and storage to data control.

The flexibility of adaptation to the client needs is also a key competence in the company in the national and international markets. As we have analyzed before, the software suits any industry in general and any company in particular.

Regarding to the way the firm operates- subcontracting local suppliers- it allows the firm to take advantage of potential opportunities emerged in different markets, without involving an increase in costs. Managers declare this characteristic is limited since the competition does not offer an integral service of engineering and informatics i.e., developing the software and installing it, without intermediary.

By contrast, CO2 Smart Tech takes charge of all the process, even when they subcontract installation. Hence, companies that look for an imitation will be subject to high costs due to the nature of the services provided.

Thus the rareness, being costly to imitate and the existence of an adequate organization, make the flexibility of adaptation to the client a strategic asset to support the competitive advantage of CO2 Smart Tech.

We have to highlight the success of the firm in terms of customer´s relationships. This capability is the one that has led CO2 Smart Tech to jump abroad: client satisfaction with received services is what has generated their fidelity as well as a direct influence when establishing links.

There is no doubt about the market value of this capability, especially at the beginning of the activity. Getting the client`s trust has let the company to take advantage of new market opportunities. This capacity is valuable, difficult to imitate and transfer, and the

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company has done organizational efforts to maintain the client`s trust over the competitors. As a conclusion, customer`s relationships of CO2 Smart Tech are a strategic asset supporting its competitive advantage.

Eventually, the financial capability is also relevant in this industry. The necessary capital to be able to carry a business out is an entrance barrier for new companies. This results in cataloguing it as a scarce capability among the competition, since imitation cost is high.

This financial capability has been well-managed during the firm`s life. Managers proceed in a sustainable way: revenues generated by the firm financed its growth.

This policy has let CO2 Smart Tech to reach some ambitious projects.

However, this capability has a limit: it cannot be compared the financial capability of the firm to the financial capability of the big competitors of the industry such as IBM, Siemens or Sneichder. An evidence of this boundary is the indebtedness the firm has to face in 2017 onwards as a consequence of Gestamp`s project.

The analysis drives us to state that financial capability is valuable, rare and costly to imitate as long as it is an entry barrier for new competitors. In the same way, the firm has an adequate organizational capacity to manage it.

Table 4 shows the conclusions we have reached before:

Table 4. VRIO analysis over CO2 Smart Tech resources

Resources and capabilities	Valuable?	Rare?	Costly to imitate?	Exploited by organization?	Competitive implications
Human Resources	✓	✓	✓	✓	Sustained competitive advantage
Technology	✓	✓	✓	✓	Sustained competitive advantage
Innovative capability	✓	✓	✓	✓	Sustained competitive advantage
Flexibility of adaptation	✓	✓	✓	✓	Sustained competitive advantage
Client relations capability	✓	✓	✓	✓	Sustained competitive advantage
Financial capacity	✓	✓	✓	✓	Sustained competitive advantage

Source: own elaboration

### 3.2.2. Porter’s Value Chain Model

Porter’s value chain model is a useful tool to identify different types of activities developed by the firm that create value. This author distinguishes between: primary activities, through which value is created; and the support activities, which are needed to successfully accomplish firm’s primary activities (Sánchez, R., & Heene, A., 2004, p.30).

The value chain of a firm consists on the interdependence of several activities that give rise to a final margin. Considering it, managers should understand how activities affect to other activities and to the final value chain of the company. They also must put attention to the interaction among the company’s value chain and other stakeholder’s value chain.

In connection with the previous section, competitive advantages derived from company’s resources and capabilities are originated within the value chain, under the influence of a competitive environment. We can define the following as the primary activities of CO2 Smart Tech:

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- Inbound logistics: the control of inventory and the storage of raw materials takes place at the offices where the company operates, in Oleiros and Bueu. However, they don't have high quantity of inventory since it depends on the specific needs of each project they face. In fact, sometimes raw materials are not necessary. That is the case when CO2 Smart Tech subcontracts installation- being different companies the ones that provide the equipment.
- Operations: investigation, creation and development of their own software by technicians. Again, depending on the project they also carry out the installation of it.
- Outbound logistics: sometimes CO2 Smart Tech subcontracts the installation service in the client's facilities. Product distribution is totally controlled by the firm, removing all possibility of intermediary agents.
- Marketing and sales: they use traditional means such as mailing, phoning and the attendance to congress and events. In addition through firm's webpage and some agreements with partners they try to get in touch with as much clients as they can.
- Service: maintenance service as the principal one. In addition they offer consulting service by developing reports to clients.

The supporting activities that help to manage the previous ones are the following:

- Human Resource Management: the company has twelve employees. Between them there are engineers, informatics, programmers, an administrative and a marketing expert. The company does not have a HR department. Personnel decisions have been taken directly by the founder.
- Technology Development: R & D office in Bueu, composed by two computer engineers and four programmers, takes care of product innovation.

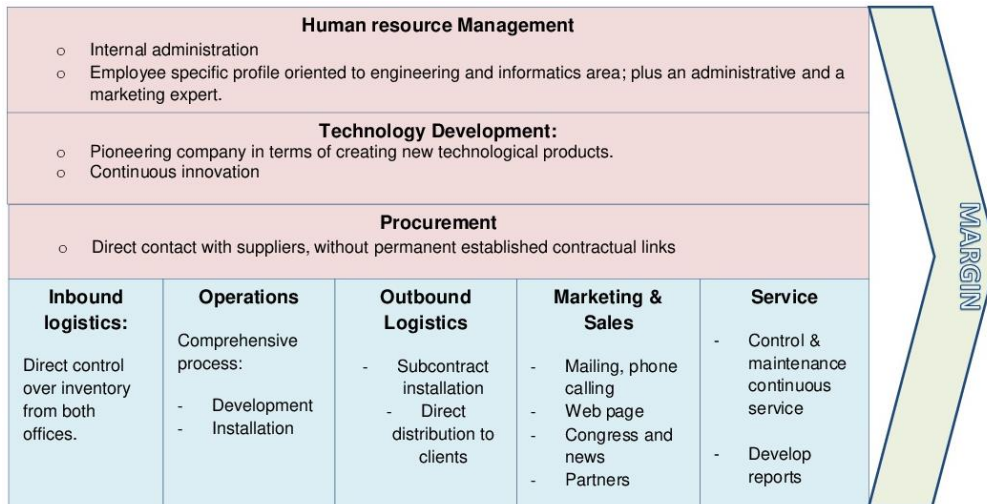


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- Procurement: The purchase of raw materials is ordered to different suppliers, without specific contractual links.

In a visual way, Table 5 shows the value chain of *CO2 Smart Tech*:

Table 5. *CO2 Smart Tech* Value Chain



Source: own elaboration

Through their value chain, *CO2 Smart Tech* carries on a differentiation strategy. Their challenge is to be able to differentiate their product from the competition- in the client’s perception. They try to make consumers to appreciate product features, generating the perception that the value of *Cost Tem* system is greater. The strategic approach is to get the customer is able to pay a higher price for a well-differentiated product. This price must be higher than the cost in which *CO2 Smart Tech* has as a consequence of its differentiation.

*Cost Tem* system enables an exhaustive control of the energy consumption of customer’s facilities. As a result, efficiency should be achieved generating cost savings for the client- in a given period of time, so the initial investment should be amortized in the short-term.

According to managers, these are the main values perceived by the clients that use the *CO2 Smart Tech*’s service, according to the managers interviewed:

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- CO2 technicians that come to the client`s locations are engineers, not computer science professionals. Thus, the client perceives that they have a better understanding of their needs in control of energy consumption.
- CO2 offers a customized system for each company, and even for each facility.
- Its innovation capability, being pioneers in developing a real-time monitoring software, is better than the competitors one.

(Carlos Pimentel, Sales and Marketing Manager, December 2017)

This strategy is not combined with a cost leadership strategy. It is a high-quality service, which manufacture is not made through the use of economies of scale. To the contrary, production is customized according to the client`s needs and the final price depends on the specific conditions of each project.

Regarding their competitive environment, managers state that there are two types of competitors:

On the one hand multinationals. According to Gustavo Amann, “they have this type of software, but basic versions; they haven`t developed innovative versions. What they offer as added value is the free installation of their equipment” (December 2017).

On the other hand, small companies which have developed similar softwares to Cost Tem. The difference between them is that “they have a different business model: they only offer TIC services, while they don`t offer engineering and installation ones”. (Alberto Mendez, founder of CO2 Smart Tech, February 2017).

Performing an analysis of competitors through secondary sources, we discover different products with similar features. Most of them surge when ISO 5001 law is published in 2011 by the International Organization for Standardization. This law characterizes in giving eases to companies to integrate energy management into their overall efforts to improve quality and environmental management.

Basing on the point of view of CO2 Smart Tech managers, we have extrapolated the keys of Cost Tem system that give success to the company in the market. These are:

- Real- time data collection
- Flexibility on working with different suppliers and integrating all type of measures. It is, not having a limited hardware.

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- Complete service. It tis, engineering and informatics services with a direct tie between clients and the company.

In order to have a clear insight of the differential value of the company compared to competitors, we have analyzed different companies in Table 6, offering the following results of the table:

Table 6. Competition environment analysis based on the software features as well as the service they provide.

	DEXMA	CIRCUTO R	SEINO N	SOCOM EC	SCHNEID ER	SIEMEN S
<b>Size (employee )</b>	26	188	20	7	>3000	>400.00 0
<b>Real- Time data collection</b>	YES	YES	YES	YES	YES	NO
<b>Engineeri ng service</b>	NO	NO	NO	YES	YES	YES
<b>Flexibility of integratio n (hardware )</b>	YES	NO	YES	NO	YES	NO
<b>Observati ons</b>	They have fixed prices for “starters”- 395€-, packs for “profession als”- 995€- and	The data collected is not stored in the cloud. Instead of it, data are collected in a PC.	Prices vary dependi ng on the license chosen: basic one,	The company has its own equipme nt, so there is no choice in	They offer two different energy monitorin g software. The data are not	The compan y has its own equipme nt, so there is no choice

	different price for companies, depending on the wide of the project.	Moreover, they commercialize different electronic devices related to energy efficiency.	advanced one or expert.	the hardware elements	collected in the cloud.	in the hardware elements. Data is not collected in real time.
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Source: own elaboration

What highlights in the comparison is the complete service that CO2 Smart Tech offers. Not having intermediaries from the commercialization to the installation of the software gives the company an advantage in the market. However, talking about software features- real- time data and flexibility-, they do not highlight since competence (mainly small companies) have the same product.

In this sense, the analysis holds CO2 Smart Tech managers vision: small companies focus all they efforts on commercializing their own software. It is the only product they have; however, big multinational companies offer a wide product line.

Apart from these direct competitors we have to mention that there are alternative ways of energy efficiency that affect indirectly to CO2 Smart Tech. An example of it is a galician enterprise called Norvento. Instead of commercializing a software, they use renewable energy sources. They look for a minimization of the consumption through the implantation of these types of sources in the buildings- they produce the energy the activity needs.

In short, the benefits offered by the firm at a competitive price is what allows CO2 Smart Tech to compete with huge companies. “We keep our position because we fit in terms of flexibility, price and service quality” says Alberto Mendez (February 2018).

### 3.3. Internationalization profile following the model of ten strategies of internationalization

The internationalization process of CO2 Smart Tech has derived mainly from its Spanish customers. The first installation carried out abroad was in Berlin, where they went through Pontegadea company.

They are currently working on a project with Pontegadea. It lies on the maintenance need of its buildings: “there are only four technicians in the whole company, helped by third companies, to control the facilities. Pontegadea doesn’t know what occurs in its buildings, so it is not able to control the maintenance and the investment” (Alberto Mendez, founder of CO2 Smart Tech, February 2018).

Another example of internationalization through clients’ tie was a project in Panama. They went to Panama through Edit panama. It is a firm with several business lines, including energy efficiency.

Focusing on the multinational Gestamp, it is the biggest project they have been involved in. In this case they didn’t achieve this client through a previous one, they made a direct contact.

This project implies the installation of Cost Tem system in several facilities of the firm-located in USA and Mexico. It is a big project that gives them visibility in the Spanish market.

It also has a direct impact in CO2 Smart Tech annual accounts. Foreign income has increased: “only with Gestamp revenues, the foreign income will be in this year more than 37%” (Gustavo Amann, CEO of CO2 Smart Tech, December 2017). In fact, managers expect this foreign income to continue growing since there is a high probability of Gestamp requiring them for the installation of the software in two more facilities in 2019.

According to the data collected from secondary resources and the interviews maintained with the managers of the company, Table 7 shows the internationalization profile of the company following the Model of Ten Strategies of Internationalization (Villarreal, 1988).

Table 7. Internationalization profile of CO2 Smart Tech.

<b>INTERNATIONALIZATION PROFILE</b>	
<b>1. Location Strategy</b>	<p>Countries where the company is already in: Portugal, Germany, Arabic Emirates, USA, El Salvador, Panama and Dominican Republic.</p> <p>Countries where it will be implemented: USA and Mexico</p>
<b>2. Entry strategy</b>	<p>CO2 does not implement any of the following strategies: exporting abroad; productive or services implementation.</p> <p>By contrast, they operate by subcontracting services in some cases and with occasional displacements abroad of the internal technicians.</p>
<b>3. Growth strategy</b>	<p>Internal growth based on a combination of founder`s financing resources and an ENISA loan until 2017. In 2018, the company assumed a higher indebtedness forced by the Gestamp`s project. They asked for five loans to banks.</p>
<b>4. Convivence strategy</b>	<p>CO2`s internationalization bases on links with customers located in Spain with international growth, which acts as strategic allies.</p>
<b>5. Corporative strategy</b>	<p>CO2 Smart Tech only has a unique business unit. In the near future, the managers only plan the impulse of the lines of services of consulting reports based on the outputs of its own software and improving the performance of the current software.</p> <p>The managers support the company`s growth in the market development,</p>

	<p>without changing the current service offered in the national market.</p> <p>They have been taking advantage of arising opportunities in new international markets.</p>
<p><b>6. Internalization Strategy</b></p>	<p>Both the primary and secondary operations of the value chain are carried out by the company except on certain occasions related to the installation of the system abroad:</p> <ul style="list-style-type: none"> <li>- The client takes care of the installation</li> <li>- CO2 Smart Tech subcontracts installation service to local companies in the destiny country.</li> </ul> <p>Therefore, they sometimes have to deal with the externalization of a primary activity from their value chain, offering the clients the same type of conditions: customized projects characterized by the integration between the value chains of client and provider.</p>
<p><b>7. Competitive strategy</b></p>	<p>Its positioning is based on the differentiation of its product, through quality, innovation and flexible adaptation to the client`s needs in the niche of industrial companies.</p>
<p><b>8. Structure Strategy</b></p>	<p>By 2018 the company has twelve employees, divided into two offices. It is not expected a change in the firm`s structure as a result of the internationalization process. The external activity is coordinated by the managers at the institutional level and technicians at the operational level.</p>

<b>9. Perspective Strategy</b>	The company operates with a global strategic focus in national and foreign markets. Manager´s objective is to achieve that the client perceives value in its product, to successfully get some positioning in the market.
<b>10. Sequence Strategy</b>	<ul style="list-style-type: none"><li>- In 2010 the company`s foundation takes place.</li><li>- In 2012 they provide their first service abroad.</li></ul> Since 2012 the percentage of foreign income has increased.

Source: own elaboration



## 4. Application of proposal to the case study

The objective of this section is to collect some evidences to confirm or reject the different proposal that were proposed at the beginning. To carry it out, we base on the analysis of the company, both in the internal organization and the external environment. It allows us to know which are the relevant factors that have joined in the internationalization process of CO2 Smart Tech.

As Oviatt and McDougall state, the entrepreneur has the mission of detecting the entrepreneurial opportunity. Talking about CO2 Smart Tech, the path of this company suffered different changes. Mainly, it was because of the exploitation of the different opportunities that arised in the market. Alberto Mendez, the founder of the company, is the main responsible of it. He has a wide experience leading companies and large projects. His entrepreneurial culture and his knowledge are the main causes of the development of CO2 Smart Tech.

Alberto has a global vision of the market, that minimizes his fear to provide services abroad. This capability has derived in taking advantage of different opportunities, materialized in opening CO2 Smart Tech business to different countries. “We didn’t expect who our clients would be or wherever they were going to be” claims Alberto Mendez (February 2018). Therefore, despite not having an international approach since the beginning, he didn’t close the doors to any chance.

In fact, they have been forced to modify the operating of the company in the step of the installation of the equipment. However, they maintained the initial policy of providing a full service- so they decided to subcontract local companies:

Our value added is that we are an engineering company. It is an important value for clients. Our competitors don’t perform complete projects since they don’t care

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about the installation. Therefore they have to contract engineering companies and this generates the existence of different interlocutors. (Gustavo Amann, CEO of CO2 Smart Tech, December 2017)

Their features respond to a “new managers generation”. They are specialists with a high-level education- both technical and linguistic- that gives them a high visual capability and development abroad. By contrast, elderly or conventional managers tend to grow in the national market.

This statement holds our first proposal (P1: The younger the entrepreneur, the more based on external growth will be the internationalization process) since they have the abilities and do not have “mental boundaries” to work abroad.

The features mentioned above cover the lack of international experience of the founder at the constitution of the company. However, he is working in an international firm where he has had the chance of knowing how the foreign markets work. In the future, CO2 Smart Tech can take advantage of his knowledge:

We have to think about how to develop ourselves, for example setting up a delegation abroad... Nowadays, USA is a huge market that is really attractive, but it is complex. By Pontegadea I know how the relationships with suppliers are. (Alberto Mendez, founder of CO2 Smart Tech, February 2018)

The internationalization model carried out by CO2 Smart Tech, as we have analyzed before, is a “path by the hand of the previous Spanish clients”. It is, CO2 Smart Tech has not performed a direct recruitment of its international clients.

Talking about the Spanish clients, Alberto's previous contacts have been an important asset for the company. An evidence is the first installation they performed abroad- in Germany- that was reached thanks to him:

Some people I knew before founding the company were very important later on. I knew the CEO of the company Pontegadea when I was working in other company. When we developed the new software, they gave me the chance of showing the service in three buildings in Spain because the CEO knew me. (Alberto Mendez, founder of CO2 Smart Tech, February 2018).

Taking advantage of the founder`s expertise as faster as they can is an issue defended by Criado et al. When talking about CO2 Smart Tech, pre-established personal networks

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the entrepreneur had were a key to go abroad. It allows us to confirm our second proposition (P2: The more pre-established personal networks the entrepreneur has, the more accelerated the internationalization of the company will be), since after two years of the firm constitution *CO2 Smart Tech* provides services abroad.

The approach of modifying the operationing are low, since it would require a huge investment in human capital and fixed assets- through a delegation. Managers think they are not prepared to carry it out. In this sense, managers are cautious. They prefer having the security of facing the projects through Spanish clients than taking the chance of going abroad alone.

In conclusion, our third proposal is confirmed in our case study (P3): the more accumulated experience in international markets the entrepreneur has, the less based on partnership strategy will be the internationalization process.

We have to analyze the firm structure. The adjectives that describe it are flexible and easy- adapting to the environment. The firm is successful in terms of providing services in national territory and abroad.

According to Gustavo Amann, “in the past, Mario Rivera and Alberto Mendez were in charge of the installation of the equipment. But the company has growth so it has been forced to change its functioning- subcontracting the installation is the solution” (December 2017).

The quick- adaptation of the firm to the changing environment is also based on the “small-size” of the company, as Knight and Cavusgill state. Its reduced investment in fixed assets, in this particular case, is an advantage. It is, the change in the organization has focused on the human capital. By contrast, if the change had been based over material assets, the economical consequences would have been higher.

Zuchella et al. (2016) state that younger companies focus on developing “reputational assets” while older companies focus on product diversification. *CO2 Smart Tech* suits this statement. Through a differentiation strategy they offer a high-quality product that stands out in the market.

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To finance the changes the company made, they adopt a self- financing policy. The founder of the company, Alberto, rejects bank financing: “we use the company`s benefits to invest in human capital (...) I didn`t want banks having a role in the company” (February 2018).

Although this financial policy has changed in the last year with the request of several loans, the company survived seven years without asking for any loan. This lets us to provide evidences to support partially our fourth proposal. Therefore, P4 states that the younger the company is, the more based on external growth strategy the internationalization process will be.

Regarding to our P5 proposal, we cannot provide evidences to support its confirmation in the case of *CO2 Smart Tech*. The CEO of the company- Gustavo Amann- describes himself as a conservative person. When asking him about a comparative between two hypothetical projects, he prefers to stay in the national market: “if you ask me, do you bet on Gestamp abroad or do you prefer Pescanova and FINSA in Spain? I would choose the ones that are located in Spain, because of the proximity” (December 2017).

Moreover, in Gestamp project they detected two boundaries. First, an idiomatic one since *CO2 Smart Tech* technicians don`t speak English. Second, the way of organizing and carrying out the work. Gustavo Amann specifies it when he says that:

“It is easier to get involved with Spanish people. We had different problems when went to Gestamp facilities in USA. They are low prone to answer our emails and calls” (December 2017).

This culture differences are also detected by Mario Rivera: “these projects are difficult because of the distance. If it could be possible to send people from Spain to work in USA, it would be rapidly and simple for us” (February 2018).

Therefore, the complexity of operating in the USA market shows an inclination to stay in the national market or even European market. It is, they prefer markets where cultural differences are lower.

However, the fact is that *CO2 Smart Tech* is operating in foreign markets where cultural differences are high-such as Panama, El Salvador, USA or Arabic Emirates. So we find a contradiction between the manager`s preference to stay in local markets and the real

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behavior of the company that does not let us confirm P5 in the case study: the more opportunities exist in close markets, the lesser decisions of internationalization will be taken in far markets. It also rejects what Taylor and Jack claimed: “born- global” firms predominantly enter markets with minor cultural differences.

Eventually, we have to talk about the company environment. Many authors- as we have analyzed in the theoretical framework- think that the size of the market is important (for example, Taylor and Jack) as well as the dynamic and fast-changing environment (for example, Andersson, Gabriel and Wictor).

The energy sector has undergone an important transformation throughout these years. The companies in particular and public institutions in general- through the approval of regulatory laws- have promoted the implantation of different measures. Between these, they tried to incentivate companies to achieve energetic savings in order to maintain the environment.

Nevertheless, there are few companies that include in their organizational design a department for the study of cost saving and the implantation of alternatives in order to manage a better energy efficiency. It is analyzed by Carlos Pimentel:

In the industry level, as a general rule, energy consumption is the third most important cost for the company- being personnel and raw material acquisitions before. The first two of them have a specific department; however, it is no usual having a department that analyzes the energy consumption. (December 2017)

The energy and electric sector is dynamic and the innovation is constant. In addition, Mario Rivera claims the equipment is standardized “in the electrical world the technical equipment is standardized so the choice of choosing the equipment is easier for us” (February 2018).

This behavior favors *CO2 Smart Tech*. Moreover, the software the company commercializes is a device that can be installed in every venture of every sector, without taking into account the country. Therefore, the need of investing in research and development arises. In this market, a new product or a new version of an existing product in the market kill the ones that are already established.

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These features hold our last proposal P6: the more dynamic and fast- changing the environment is, the more accelerated the internationalization process will be.

To sum up, the speed of the internationalization process of CO2 Smart Tech has been mainly positively affected by: the age of the entrepreneur, his/her pre- established networks, the youth of the company and the fast- changing environment.

In this point, we have to claim the denomination of CO2 Smart Tech as a new international enterprise or a “born-global” firm because:

- They had an early internationalization going abroad two years after setting up the company
- Its foreign revenues conform a high percentage- up to 40%- of the company profits.
- They took advantage of its assets through innovation. The features of its main products have created a differential value among its competitors.

## 5. Conclusions

The objective of this final degree project is to determine the factors that drive to increase the rapidity of the internationalization process in some ventures. The “born- global” firms are characterized in general terms by having a high percentage of their income from international clients, in an early stage. In the theoretical framework we studied the main factors responsible of this accelerated process of internationalization. We completed this conceptual framework, with the integrated perspective of the model of ten strategies of internationalization in order to set the guidelines for designing the internationalization profile of a company from a strategic level. From the literature review, we conclude that international growth of companies depends on the right combination of strategic analysis of opportunities in international markets, previous alliances to take advantage in the entry process, the entrepreneur`s vision of reducing the risk aversion to move abroad and an adaptable organizational design to the changing needs of the external markets.

The use of the case study method let us to do a deep analysis of the Galician company CO2 Smart Tech through secondary sources and primary sources that gave us a strategic perspective of the reasons of the behavior of the company. Every firm that maintains a competitive position in the market has some key resources and capabilities. In order to study them we used VRIO model. Moreover, the Porter`s Value Chain model is the one we used to classify primary and secondary activities of the company. The analysis of the strategic assets of the company connected with the critical factors of the industry has allowed us to configure the internationalization profile of the firm.

Therefore we conclude that the successful behavior of CO2 Smart Tech can be explained from the combination between the differential value provided by its human capital and the commercialization of an innovative and high-tech product for industrial firms. In this sense, a differentiation niche strategy is performed by the company. In the national market, the firm develops all the activities of its value chain. However, when it

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“Born- global” firms and its accelerated process of internationalization. *CO2 Smart Tech* approach. is necessary, its adaptation capability lets the firm to externalize a primary activity -the software installation.

Focusing on the internationalization process, the global vision of the entrepreneur and his pre-established contacts have been a competitive advantage for *CO2 Smart Tech* in the external markets. The entry strategy in international markets is based on their Spanish clients. To reach these international opportunities, they have not taken into account culture differences.

As a consequence of this analysis, we conclude that the factors of strategic analysis, previous alliances, entrepreneur`s vision, quality of human capital and product and organizational design explain the exponential growth of the company during the economic crisis. Its foreign income has increased in the last years and it is expected that it will continue growing. However, the projects performed have driven the company to a risky situation in 2018: the company has reached its indebtedness limit, what can increase the risk aversion of the managers when they face future growth opportunities, as we detected during the interviews.

In short, we conclude *CO2 Smart Tech* is a “born- global” firm. The main factors that have favored its internationalization process are: the age and global vision of the entrepreneur, his pre- established networks, the youth of the company and the fast-changing environment.

This study addresses relevant issues in born- global firms internationalization, but it also provides some suggestions for future research.

In terms of the psychic distance, our research shows an inconsistency between how the CEO considers himself and what the firm has performed. The entrepreneur describes himself as a conservative person; however, the data show that the company operates in markets with high cultural differences.

Linking this topic with a company`s target group, we introduce the following proposal to be further research: the psychist distance affects in a different way depending on whether the services are provided to individuals or companies.

What would be the sense of this? The reasoning is that when providing services to companies, they usually have a common operating adapted to international markets so



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the relationship with them should be easier. On the other hand, providing services to individuals could involve the need of studying their habits and perceptions through a market research in order to detect cultural and legal differences not supported by the company.

In addition, the product the company offers is also a relevant factor of the accelerated internationalization of the company. There are several authors who consider that companies with an accelerated process of internationalization are the ones that offer an innovative and high-tech product. Our case- study research is focused in a firm that suits this statement. What we propose is to continue investigating which are the industries that are prone to internationalize.

To develop it, we suggest a comparative study between companies from different industries. Specifying it, the comparative could be based over the technology industry and the textile or the food one. Final results might show the differences between introducing a product conditioned to the particular taste of people because of their country of origin – food and clothes- compared with the introduction of a technological product.

Finally, focusing on the factor of the pre-established personal networks, its relevance has been confirmed in our case- study research. We also consider interesting to deep inside this issue in the future. What we propose is to develop an inquiry that lets distinguish among different types of networks and the way each one of them affects to the speed of the internationalization of companies.

To sum up, the analysis of factors underlying the accelerated process of internationalization of new companies can be a stimulating line of research for supporting the companies` growth.

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