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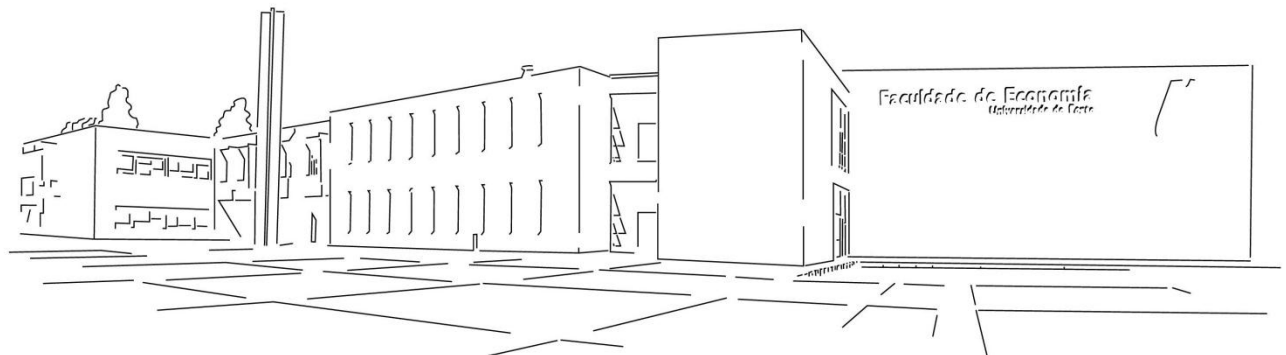
CLUSTERS AND INTERNATIONALIZATION:

HOW DOES BELONGING TO A CLUSTER INFLUENCE THE PROCESS OF
INTERNATIONALIZATION AND THE STRATEGIES OF ITS MEMBERS?

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Biography

Sara do Souto Fontes Antunes Lopes graduated in Economics at the School of Economics and Management of the University of Porto (FEP) in 2013 and is currently finishing the Master in International Economics and Management at the same school.

During the journey at FEP, Sara participated in various projects at the student union of FEP (*AEFEP*) and at *NEV* (Association of Volunteer Students), currently named as *EXUP* (Experience Upgrade Program).

Sara previously participated in a summer internship at *EDP Valor* and worked at the finance and human resources department at *Adclick*. Recently Sara started to work as an assurance assistant at *PwC*.

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Abstract

Clusters and internationalization are two phenomena of paramount importance that have been receiving attention in the literature and about which there is a considerable amount of literature. However, literature that addresses the interaction between clusters and internationalization is scarce, which makes this study relevant. The research question underlying this dissertation is: how does belonging to a Cluster influence the process of internationalization and the strategies of its members? This dissertation aims to clarify the mechanisms (based on relevant theories and frameworks) by which this influence occurs. An empirical application based on the experience of PortugalFoods, the Portuguese agrofood cluster, is developed. Primary data was collected through in-depth interviews to a selected number of companies with diverse patterns of internationalization.

It was found that the reasons that led firms aspiring an international activity to integrate the cluster were mainly the access to international information and the access to a network, followed by the opportunity to develop joint R&D.

A key conclusion arises: despite the differences between the internationalization process of the firms and their capabilities or difficulties, PortugalFoods has a supportive role and acts as a facilitator and a booster in the internationalization of its members. The cluster provides the needed information and helps its members to build or enrich their network. Furthermore, the cluster provides a set of resources to its members and, in more specific issues, gives a more tailored support: contacts of partners, specific information on target markets or support to define positioning in foreign markets.

PortugalFoods does not have a decisive role, even in firms taking their first steps, but provides the needed resources to evolve quickly, as well as specific information to help making the right decisions and achieving goals.

Keywords: cluster; internationalization; networks; cooperation; PortugalFoods.

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Introduction

Over time, markets became more open and globalized, leading to an overall increase in competition. In the globalization process, clusters became a relevant reality as they represent a new form of organization that opens new opportunities for their member firms and their host regions, since "the enduring competitive advantages in a global economy lie increasingly in local things - knowledge, relationships, motivation - that distant rivals cannot match" (Porter, 1998, p. 77). At the same time, internationalization is an even more relevant phenomenon in the modern world economy, with many organizations embracing the opportunity to go international (Kowalski, 2014) through various entry modes (Foreign Direct Investment/FDI, exports or contractual forms). Despite the undeniable relevance of both phenomena - clusterization and internationalization - the literature and frameworks dealing with their interaction is scarce.

On the other hand, the Portuguese enterprise structure is dominated by SMEs that represented in 2011 approximately 99.9% of the total structure of non-financial enterprises (INE, 2013). According to zu Kölker, Müller & Zombori (2011), the lack of resources (human, capital, financial), experience, information about foreign markets and the inexistence of internationalization strategy are other barriers that such firms face *a priori* in the internationalization process. Firms may "profit from a network or cluster which takes responsibility for the internationalization efforts of its members and assists them in their international orientation of organizations" (zu Kölker *et al.*, 2011, p. 4).

However, there is limited literature about clusters in Portugal, and even less about the internationalization of enterprises in clusters. Such blatant scarcity in the literature calls for research in this area. All these reasons motivate and give pertinence to the present study.

This dissertation seeks to address the following main research question: ***"How does belonging to a Cluster influence the process of internationalization and the strategies of its members?"***. In order to answer the main research question other research questions arise:

1. Which reasons lead companies aspiring to have an international activity to integrate a cluster? What are they expecting from the cluster?
2. Does belonging to a cluster change the internationalization process for companies that already have some form of internationalization, and in what sense? In terms of entry modes? In terms of speed? In terms of choice of markets?
3. The support provided by the cluster is the same whatever the process of internationalization of each company? Does the cluster have the ability to adapt its mechanisms according to the company stage and path of internationalization?

Having these questions in mind, the objectives of this dissertation are:

- To contribute to the systematization of the extant literature on clusters and internationalization, exploring their interaction;
- To propose specific mechanism(s)/framework(s) on how clusters may help their members to internationalize;
- To develop an empirical application based on a Portuguese cluster (PortugalFoods, the agrofood sector cluster) which will involve:
 - A micro analysis of the internationalization process of the selected cluster members on an individual basis;
 - An assessment on how cluster membership influences the process of internationalization of member companies.

In order to achieve these objectives, a review of extant literature was developed, which will be presented in chapter 1. The first subchapter of the second chapter describes the empirical methodology that supported this research. The following subchapter of the same chapter describes the case studies highlighting the process of internationalization and the influence of the cluster in each case. After a process of detailed treatment of the information gathered and based on the main contributions from the literature review, conclusions will be drawn in order to answer the research question.

Chapter 1. Literature review

1.1 Clusters

The aim of this section is to provide a comprehensive overview of the relevant concepts and literature related to clusters. Firstly, the concepts of industrial districts and clusters will be presented, followed by the characterization of the cluster business environment in terms of entrepreneurship and innovation and the type of firms that are present in the cluster, emphasizing the role of leading firms. This chapter also includes an approach to clusters life cycle and an analysis of their impact on the performance of clustered firms.

1.1.1. From Marshall's Industrial Districts to Porter's Cluster approach

The environment that surrounds firms is determinant to their success and the choice of location is a firm's strategic decision that influences its ability to get competitive advantages. Over time a phenomenon of agglomeration of firms in certain locations has been observed, which has captured the attention of relevant literature and has been analyzed with the aim of understanding the factors that lead to this concentration.

Marshall (1920) identified the factors that lead to agglomeration of similar industries in certain places called "industrial districts": "the concentration of large numbers of small businesses of a similar kind in the same locality" (p. 1302). Initially Marshall (1920) considered climate conditions and resource endowments as factors leading to the emergence of industrial districts. Yet, the author gave more relevance to a second aspect: the concentration of qualified employees in a district. In this issue, migrations movements' play an important role as, on the one hand, there are non-local workers looking for companies who need their knowledge and, on the other hand, there are companies that look for employees who have the specific skills demanded. This double seek leads to a concentration of employees and firms in certain places. The third explanation given is based on movements of companies to follow other firms, i.e., companies from the same industry tend to choose the same places to be and follow each other: "so great are the advantages which people following the same skilled trade get from near neighborhood to one another" (Marshall, 1920, p. 156). Finally, to explain industrial districts, Marshall (1920) adopted a consumer perspective according to which the consumer is willing to go further to get a specific and important product.

Furthermore, with reduced tariffs and costs associated with the transport of goods, consumers will travel a greater distance, which also explains why industries agglomerate.

A different perspective to the Marshallian concept of industrial districts is proposed by Pyke, Becattini & Sengenberger (1990), who emphasized the importance neither of the firm nor of the industry, but the linkages between them and the role of networks that allow local firms to be close and interconnected, leading to the emergence of clusters. An industrial district was defined by these authors as a “socio-territorial entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area. In the district, unlike in other environments, such as manufacturing towns, community and firms tend to merge” (Pyke *et al.*, 1990, p. 38).

Preceded by Marshall (1920) and Pyke *et al.* (1990), Porter (1990) proposed a new approach in the industrial districts theme. In “The Competitive Advantage of Nations” Porter (1990) highlighted the crucial role of the local dimension considering that “competitive advantage is created and sustained through a highly localized process” (p. 73) and achieved through acts of innovation. Aiming to explain why companies choose to locate in certain nations and how they are capable of continuous processes of innovation, Porter (1990) presented four factors originating “the diamond of national advantage”: factor conditions (nation’s position in production factors); demand conditions (nature of home-market demand); related and supporting industries (presence of supplier or related industries that are internationally competitive) and firms strategy, structure and rivalry (p. 78). As mentioned by Porter (1990) “these determinants create the national environment in which companies are born and learn how to compete” (p. 78). Later Porter (1998) stressed that the choice of location was important to get competitive advantage, but the determinants that influence this decision have changed over time. If earlier the locations that were richer in resources, like supply of cheap labor which leads to a reduction in input costs, used to be a location’s comparative advantage, now the focus is not only on the firm itself, but also on the external and business environment, leading to the emergence of clusters. This view is consistent with Marshall (1920) and with the network contributions of Pyke *et al.* (1990). The focus of

location decision is not on the firm itself but on the potential of the external environment that surrounds it.

Table 1: Factors that influence the location decision

Marshall (1920)	• Climate conditions and resource endowments • Concentration of qualified employees/migrations movements • Movements of companies to follow other firms • Consumer perspective • Tariffs and costs associated with transport
Pyke <i>et al.</i> (1990)	• Networks that allow local firms to be interconnected
Porter (1998)	• The diamond of national advantage: ○ factor conditions ○ demand conditions ○ related and supporting industries ○ firms strategy, structure and rivalry • External and business environment

Source: Own elaboration.

Over time, the factors that lead to the emergence of industrial districts, or that influence the choice of location, have shifted from production factors to factors that characterize the environment in which the company operates. The relevance of business environment is reflected in Porter's (1998) definition of clusters "geographic concentrations of interconnected companies and institutions in a particular field" (p. 78). In this concept the author considers several actors and institutions as part of the cluster: customers, suppliers, firms in related industries and also "governmental and other institutions - such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations - that provide specialized training, education, information, research, and technical support" (p. 78).

Langen (2002) defined cluster in a different way: "a population of geographically concentrated and mutually related business units, associations and public (private) organizations centered around a distinctive economic specialization" (p. 210). With this definition, the author emphasizes four aspects (p. 210):

1. a cluster is not an entity, but a population leading to an internal heterogeneity of clusters;

2. clusters are geographically concentrated and they can be local, regional or interregional;
3. the population consists of business units, associations, public-private organizations such as education or research institutes if they are engaged in the cluster activities;
4. the existence of a cluster core that is a “spatial concentration of similar activities”.

Several indicators can be used to measure the strength of relations: “economic transaction with the cluster core; use of common cluster resources; membership of cluster associations and inclusion in a regional learning system” (Langen, 2002, p. 210). Both definitions of clusters indicate a geographical concentration of related industries.

1.1.1.1. Agglomeration economies

Industrial clusters can be characterized in terms of nature of firms in the cluster, nature of their relations and transactions undertaken, leading to three types of agglomeration models (Iammarino & McCann, 2006, p. 1022):

1. Pure agglomeration model – characterized by transient inter-firm relations, in which firms do not have market power and continuously change their relations with other firms and customers, leading to an intense local competition and absence of loyalty and long-term relations;
2. Industrial complex – characterized by long-term stable and predictable relationships that involve frequent transactions;
3. Social Network – presence of mutual trust relations between key agents; it is an aspatial model, but proximity tends to foster trust relations, leading to a local business environment of confidence, risk-taking and cooperation.

Clusters result from agglomeration economies. Those economies “arise within clusters of complementary industries related by technology, skills, shared infrastructure, demand and other linkages” (Delgado, Porter & Stern, 2010, p. 2).

Several mechanisms explaining why firms agglomerate were identified. Following Marshall (1920), studies have recognized three drivers of agglomeration economies (Delgado *et al.*, 2010; Iammarino & McCann, 2006; Langen, 2002, p. 211):

1. Labor market pooling – “reduces search costs and allows specific training and education programs, which upgrade the quality of the labor pool” (Langen, 2002, p. 211);
2. Input-output linkages - presence of suppliers and customers in a cluster which proximity allows low transport costs and “enables closer monitoring and frequent face-to-face contacts” (Langen, 2002, p. 211);
3. Presence of knowledge spillovers in clusters.

Following the driver of labor market pooling, Delgado *et al.* (2010) defined clusters as “collections of industries with high levels of co-location in terms of employment” (Delgado *et al.*, 2010, p. 3).

Krugman (1990) had a different approach and considered that scale economies and transportation costs were the main reasons that could explain why manufacturing is concentrated in a certain area, remaining other regions with the role of agricultural suppliers to the manufacturing core: “in order to realize scale economies while minimizing transport costs, manufacturing firms tend to locate in the region with larger demand, but the location of demand itself depends on the distribution of manufacturing” (pp. 483-485). According to the Krugman (1990) model of geographical concentration of manufacturing, agricultural production has constant returns to scale, thus its location depends on the distribution of suitable land. The model assumes that manufacturers have increasing returns to scale. Hence, because of economies of scale, manufactures will be placed in a limited number of locations and those locations are closed to demand “since producing near one’s main market minimizes transportation costs” (p. 485). There is a circular effect due to which “manufactures production will tend to concentrate where there is a large market, but the market will be large where manufactures production is concentrated” (p. 486). Later, Krugman (1998) presented a different approach according to which there are centripetal forces promoting geographical concentration of activities, and centrifugal forces working against it. The centripetal forces are the three sources of external economies presented by Marshall

(1920): market-size effects; thick labor markets and pure external economies via information spillovers. The centrifugal forces identified were: immobile factors like dispersed production factors (demand side) or obligatory placement of production where consumers are (supply side); land rents as concentration leads to an increase of land price; pure external economies that can cause congestion (p. 8).

Other agglomeration drivers that stimulate firms to locate in clusters were identified by Delgado *et al.* (2010, p. 5): local demand characteristics; specialized institutions and the structure of regional business; social networks. The presence of strong clusters environment – strong clusters were defined as large presence of other related industries – “reduces barriers to entry and enhances regional comparative advantage, should be a central driver of entrepreneurial vitality” (Scott, 2010, p.5).

As shown, the existing literature about the drivers of agglomeration economies presents different explanations to the emergence of this phenomenon. Instead of using external economies to analyze regional economies, Saxenian (1996) suggested the network approach. Saxenian (1996) made significant contributions to this theme with an analysis to two American leading technology regions: Silicon Valley and Route 128. According to the author, agglomeration and external economies cannot explain why these regions responded so differently to the same external shock and intensified international competition: Silicon Valley recovered quickly from the crises of 1980, showing a rapid growth of start-up businesses; Route 128 has shown few signs of reversing a decline that began in the early 1980s. “A network approach can be used to argue that, despite similar origins and technologies, Silicon Valley and Route 128 evolved distinct industrial systems in the postwar period” (Saxenian, 1996, p. 45). Silicon Valley has a dense regional network characterized by: the presence of informal communication and cooperation to learning among specialist producers of related industries, while simultaneously competing intensely; open labor market that encourages entrepreneurship and experimentation. Route 128 has a different reality: “dominated by autarkic corporations that internalize a wide range of productive activities. Practices of secrecy and corporate loyalty govern relations between these firms and their customers, suppliers, and competitors, reinforcing a regional culture that encourages stability and self-reliance” (Saxenian, 1996, p. 45).

Taking for instance the case of the Silicon Valley, Saxenian (1996) suggests the network form of organization as a driver to regional agglomeration. Reinforces the importance of the network and the difference it made in these two cases by adding: “proximity facilitates the repeated, face-to-face interaction that fosters the mix of competition and collaboration required in today’s fast-paced technology industries. Yet the case of Route 128 demonstrates that geographic clustering alone does not ensure the emergence of regional networks” (Saxenian, 1996, p. 57).

Silicon Valley portrays an example of a dynamic network environment identified in several studies about clusters. The following section is focused on this dynamic cluster business environment that impacts the relations established within the cluster.

1.1.2. Cluster business environment

Following Porter’s (1998) cluster definition, within a cluster there can be a huge variety of companies and institutions. According to Furlan & Grandinetti (2008) in a cluster there are usually two types of firms: firms producing final goods and firms operating in business (B2B) markets. In the first case, their business is driven to exports and largest firms are progressively more involved in cross-border operations. Firms that operate in business markets usually work with intermediate goods, business services and machinery and technologies, and their customers are co-located. These firms represent different stages of the value chain, but both get their inputs from local suppliers (Furlan & Grandinetti, 2008) which reflects Porter’s idea that “a cluster, then, is an alternative way of organizing the value chain” (Porter, 1998, p. 80).

The agrofood industry in Modena, Italy, illustrates Porter (1998) idea of a cluster that represents an alternative way to organize the meat processing industry. Modena cluster is characterized by a dense network of SMEs, which promotes a high degree of division of labor, leading to a strong specialization of each stage of production: “the enterprises (agricultural and industrial) are linked by a network of inter-industrial relationships involving the mutual supply of specific products, essential for the production process of each player. The network of relationships also involves the trade in finished products, ready for distribution, which firms purchase from each other depending on order trends” (Bertolini & Giovannetti, 2006, p. 284). To Bertolini & Giovannetti (2006) this form of

organization of the industry is a reaction of the industry to face globalization, as co-operative movements allow a reduction of transactions costs.

Competition and cooperation are two realities that can be promoted simultaneously in the clusters' business environment (Porter, 1998). On the one hand, firms will act as rivals and compete to hold their customers but, on the other hand, there is a culture of cooperation where interests are aligned and that enables cooperation between firms operating in related or complementary industries or institutions (vertical cooperation).

Furthermore, clusters business environment is characterized by a climate of understanding and trust that benefits the companies operating there. According to Maskell (2001, p. 926), co-localized firms benefit from that environment: it reduces malfeasance; induces volunteering of reliable information; causes agreements to be honored; places negotiations on the same wavelength; eases the sharing of tacit knowledge.

According to Maskell (2001), the main reason for clusters' existence is the enhanced knowledge creation that takes place in the vertical and horizontal dimensions (p. 924). The vertical dimension includes business partners and collaborators and is formed by "firms with dissimilar but complementary capabilities that carry out complementary activities" (p. 927). The horizontal dimension of the cluster corresponds to Marshall (1920) description of firms "with similar capabilities that carry out similar activities" (p. 927) and in this dimension rivals and competitors can be found. Maskell (2001) considered that "it is by watching, discussing and comparing dissimilar solutions – often emerging from everyday practices – that firms along the horizontal dimension of the cluster become increasingly engaged in the process of learning and continuous improvement, on which their survival depends" (Maskell, 2001, p. 929).

Depending on the type of flow, knowledge spillovers can be perceived by firms as being positive or negative. If it is an inflow of knowledge, Iammarino & McCann (2006) safely assume that all firms perceive it positively. However, an unintentional outflow of knowledge can have a negative effect in two situations (Iammarino & McCann, 2006): "the private effect of an unintentional knowledge outflow on the owner firm is a leakage of its valuable intellectual capital" (p. 1023); "where any knowledge outflows from a

firm are more valuable to its competitors than are any potential knowledge inflows to the firm from its competitors” (p. 1024). According to Iammarino & McCann (2006) this can be a counter argument to Porter’s (1998) logic in favor to industrial clustering given that these effects may lead to a decision of rejecting that location. On the other hand, an unintentional outflow of knowledge can be viewed as public good knowledge that has a positive effect: “important in situations where local knowledge outflows contribute to a virtuous cycle by strengthening the knowledge base of the location, thereby making it more attractive for other innovation-bearing firms, leading to larger knowledge inflows in the future” (p.1023).

Clusters provide a rich business environment for companies’ operations. There is within the cluster a variety of firms that work together contributing to an environment of trust and cooperation, inducing knowledge spillovers. Moreover, clusters business environment is characterized by entrepreneurial activity that induces proactively innovation.

1.1.2.1. Entrepreneurship and innovation

Over time, different perspectives were developed to explain the origin of the clusters and their establishment. According to Elola, Valdaliso, López & Aranguren (2012, p. 259) “companies in clusters experience stronger growth and faster innovation than those outside clusters, and that clusters attract more start-ups than regions without a cluster”. Engel & del-Palacio (2009) consider that agglomeration of businesses by industries cannot explain the emergence of high entrepreneurial startups, almost independent of industry alignment, in certain regions. The authors defined Clusters of Innovation (COI) as “environments that favor the creation and development of high potential entrepreneurial ventures” (Engel & del-Palacio, 2009, p. 1).

Bell (2005, p. 288) defends that firms in the cluster are more innovative due to two reasons: “clustered firms benefit from agglomeration economies such nearby suppliers (...) direct observation of competitors and ability to exploit the collective knowledge; second cluster benefit from network-based effects, especially enhanced social interaction”. Plus, Bell (2005) considers that the ability to develop informal cooperative R&D results from information exchange among firms. Firms that are located in a cluster

have better access to information and, thus, are more able to be more innovative. It was during the analysis of Canadian mutual fund companies that Bell (2005, p. 287) concluded that “locating in the industry cluster as well as centrality in the managerial tie network enhances firm innovation”.

Engel & del-Palacio (2009, p. 2) suggested that “in clusters of innovation other agglomeration benefits dominate, defined not by industry specialization, but by the stage of development and innovation” and pointed out the following four benefits: mobility of resources; foundation of companies as a mechanism of innovation and business model experimentation; global strategic perspective and alignment of incentives and goals (p. 3).

Finally, according to Libaers & Meyer (2011), innovative firms located in a cluster that invests more in R&D are more effective at leveraging cluster-based resources to internationalize their operations than the ones who are in the cluster but are less innovative.

Delgado *et al.* (2010) pointed out that the presence of a cluster of related industries in a location promotes entrepreneurship given that: the costs of starting a new business are lower; opportunities for innovation are high; firms have better access to a diverse range of inputs (p. 3). Furthermore, “the co-location of companies, customers, suppliers, and other institutions also increases the perception of innovation opportunities while amplifying the pressure to innovate” (p. 3).

Formal and informal relationships of a network are channels where know-how is rapidly exchanged. At the same time, the mobility of resources is reflected in the high inter-firm mobility of entrepreneurs, which enables transfer of knowledge and generation of innovation. Frequently, in dynamic and entrepreneurial environment there is an inter-firm support of sharing of experiences and this may explain why unrelated industries emerge within the cluster (Engel & del-Palacio, 2009). Clusters usually have their own infrastructures and contacts, for instance with lawyers and bankers, which plays an important role in supporting new businesses (Engel & del-Palacio, 2009).

1.1.2.2. Influence of leading firms in the clusters

Clusters are formed by several different firms and institutions linked by business relationships, playing each one a specific role. Leading firms have captured the literature attention once those firms are considered as “acting as drivers for innovation development and clusters growth” (Ferretti & Parmentola, 2012, p. 66). A leading firm is characterized by “having an international reputation within a particular market or research area, being involved in extensive global linkages and networks and, most significantly, having built a specialist area of activity within the region so that the cluster becomes recognized internationally” (Giblin, 2010, p. 38).

The presence of “leading firms” in a cluster has a stimulating effect on the cluster, generates external economies and promotes clustering, since the location becomes more attractive. Giblin (2010) developed an empirical application in two clusters (a medical technology cluster and a software cluster) that shown that large firms might have a leading position by influencing the technology trajectory of the region and generate agglomerative effects, enhancing the relevance and sustainability of clusters. The presence of leading firms in the cluster increases the availability of skilled labor, specialized suppliers and knowledge spillovers among firms in the cluster (leading firms can act as gatekeepers). Moreover, Giblin (2010) found that leading firms presence affects positively the degree to which firms connect with global networks and that “the presence of dominant firms in a cluster increases the likelihood that other firms in the cluster will internationalize through outward foreign direct investment” (Giblin, 2010, p. 27).

However, in the research developed by Ferretti & Parmentola (2012) in the Campania Aircraft Cluster, they reached an opposite conclusion to that of Giblin (2010). Ferretti & Parmentola (2012) found that those firms do not always have a positive impact on clusters development: “the presence of a focal firm in a technology cluster is not a positive factor if this firm does not act as knowledge hub with explicit intention to transfer knowledge to other cluster members. On the contrary, in some cases the presence of focal firm may even hinder cluster development by limiting the activity of other cluster companies” (p. 75).

The companies that formed the cluster and its business environment might influence positively or negatively clustered companies. Some authors have developed some research about clusters life cycle and how it influences clustered firms performance.

1.1.3. Clusters life cycle

Clusters growth patterns are influenced by internal and external factors that determined clusters evolution and the different stages crossed, which characterize their life cycle.

According to Elola *et al.* (2012) this natural evolution is determined by initial conditions and capabilities created by the clustered firms. The authors identified local and global factors that drive cluster emergence and evolution, as shown in the following table.

Table 2: Cluster life cycle

Cluster emergence		Cluster evolution	
Local factors	Global factors	Local factors	Global factors
• Traditional and historical preconditions • Endowment of the region • Anchor firms and local entrepreneurship • Local demand • Local and national policies	• Entry of a foreign dynamic firm	• Development of factors specific to the cluster – specialized and difficult to imitate • Strategic capabilities • Dynamic capabilities • Local sophisticated demand • Local and national policies	• Cluster-leading firms and cluster associations • Flows of capital, information and knowledge and entry of MNEs

Source: adapted from Elola *et al.* (2012)

The local factors that drive cluster emergence identified by Elola *et al.* (2012) are similar to those mentioned by Marshall (1920), Porter (1990). However, Elola *et al.* (2012) stressed the role of anchor firms and local entrepreneurship as factors fostering the emergence of a cluster. On the other hand, the entry of a foreign dynamic firm (multinational or subsidiary) with foreign investment and entrepreneurship will promote an inflow of external knowledge contributing to the cluster's emergence.

At a local level, the evolution of a cluster is determined not by preconditions of location, but by strategic decisions taken by firms: cost leadership, innovation and ability to face up sudden changes in the environment. The process of cluster evolution is also explained by global factors that are considered particularly challenging to clusters: globalization process. This process has an impact on the cluster evolution as it is reflected in terms of flows of capital, information and knowledge and entry of MNEs. “Cluster-leading firms and cluster associations may act as technological gatekeepers of extra-knowledge, which they channel into the cluster” (Elola *et al.*, 2012, p. 262).

As a dynamic reality, it is difficult to find a pattern of a structured life cycle fitting all different clusters. There are two interpretations to explain cycle evolution: an autonomous process of the clusters and the industry life cycle (Martin & Sunley, 2011). The first one is a simple interpretation of cluster evolution according to which “clusters life cycles are determined by the balance of agglomerative advantages and disadvantages” (Martin & Sunley, 2011, p. 1302). The second interpretation is a 5 main stages model which explains the clusters development as follows: emergence or birth, growth, maturity, decline and death. These phases are delimited in terms of age of the cluster, number of employed, number of firms, innovativeness, market share or other similar indicators (Martin & Sunley, 2011, p. 1301).

From the empirical study done by Elola *et al.* (2012) in 2008 for four different clusters (paper-making, maritime industries, electronics and ICT, and aeronautics) in the Basque country, some patterns corresponding to different stages of cluster life cycle emerged:

1. During the origin/emergence of clusters, local demand and factor conditions, together with entrepreneurship and inflow of external knowledge and technology played an important role;
2. On the development stage, the factors specific to the cluster developed and an increasing demand, either local and/or international, is the most determinant;
3. From development to maturity or decline, to ensure the competitive advantage, the local resources are not enough, which leads to a quickly reaction (dynamic capabilities) of clusters and firms to reformulate the existing strategies, thus testing out the strategic capabilities.

According to Elola *et al.* (2012) the heterogeneity of growth patterns can be due to different initial conditions. From this study, another conclusion arises: “Clusters react differently to the same external shocks and evolve differently according to their learning capabilities (...) cluster evolution (...) also depends on the local firm-specific mechanisms of learning and introduction of technological innovation, referring to the importance of organizational, product and process innovation” (Elola *et al.*, 2012, p. 276). Silicon Valley and Route 128 (Saxenian, 1996) reacted differently to the same external shock and both illustrate the conclusions to which Elola *et al.* (2012) reached.

Audretsch & Feldman (1996) posit a close relationship between the propensity for innovative activity and the phase of a cluster life cycle. There is a “greater propensity for innovative activity to cluster during the early stages of the industry life cycle, innovative activity tends to be more highly dispersed during the mature and declining stages of the life cycle” (p. 253). Consistent with Elola *et al.* (2012), Audretsch & Feldman (1996) consider that there are “certain types of knowledge sources, such as university research tend to lead to a clustering of innovative activity in the introduction stage of the life cycle but not during the growth stage, other knowledge resources, such as skilled labor promote innovative clustering throughout the life cycle” (p. 254). Another finding from Audretsch & Feldman (1996) is that in mature and declining stages the geographic concentration of production increases leading to a greater dispersion of innovative activity (p. 254). “As the technology-industry life cycle matures, clusters advantages gradually become disadvantages and industries tend to disperse spatially as process innovations become more important” (Martin & Sunley, 2011, p. 1301). The main conclusion emerging from Audretsch & Feldman (1996) work is that “positive agglomeration effects during the early stages of the industry life cycle apparently are less important during the latter life cycle stages (p. 254).

Hence, some research exists in clusters’ life cycle but this topic remains very undeveloped (Martin & Sunley, 2011). The influence of the cluster on the performance of clustered firms is a topic that has been discussed by some authors, as the next section describes.

1.1.4. Impact on the performance of clustered firms

The interaction between companies and institutions embedded in the cluster favors the foundation, establishment and fosters the development of firms and businesses. Yet, some studies reveal inconsistent results about the effect of clusters in performance: “while a number of studies have found that clusters enhance the probability of entry, survival, and growth of new firms; other studies indicate that location in a cluster decreases the survival chances of new firms” (Wennberg & Lindqvist, 2010, p. 222).

With the purpose of evaluating the effects of clusters on the survival and performance of new entrepreneurial firms, Wennberg & Lindqvist (2010) developed a study among 4.397 Swedish firms from different sectors (telecom, financial services and pharmaceutical) and “found evidence that a high concentration of own cluster employment (in same industry and related industries) was related to better chances of survival, higher employment, higher tax payments, and higher salary payments” (Wennberg & Lindqvist, 2010, p. 238). Furthermore, they concluded that “clusters do provide economic benefits not only for firms in general, but also for newly started entrepreneurial firms in particular (...) not only have higher survival rates, but also have higher economic performance” (Wennberg & Lindqvist, 2010, p. 238).

According to Porter (1998), members of a cluster benefit from a dynamic environment that allows them to achieve a better performance. Companies within the clusters will have better access to sourcing inputs such as specialized employees, with lower cost of recruitment and easier and less costly access to suppliers already present in the location. Personal relationships and community ties play an important role as they are a channel for transfer of specialized information.

Cluster members are complementary and dependent: on the one hand, the products they offer can be complementary, on the other hand, in a marketing perspective, the impact of marketing strategies will affect the whole cluster and their reputation, thus making the location more or less attractive to customers. All members will take advantage of investments, e.g. infrastructure, made by government or public institutions. Finally, local rivalry works as a motivation to perform better and, as all firms have access to the

same resources and conditions, it becomes easier to measure their performance (Porter, 1998, pp. 81-83).

However, a research by Klumbies & Bausch (2011) analyzing 42 different research studies concluded that the influence of clusters in the performance of clustered companies is not so linear as pointed by Porter (1998). The authors identified a negative influence of the agglomeration effect that was explained by the apprehension of entrepreneurs about leakage of internal information or knowledge due to the proximity between companies, and the risk of employee turnover. On the other hand, they concluded that the presence of foreign firms has a positive effect since the performance of local firms increases. The studies analyzed indicate that access to cluster infrastructure does not seem important, indicating no relevant influence in clustered companies' performance. This research found positive effects, negative effects and in other situations could not confirm any influence, leading to mixed results about cluster's influence.

For Langen (2002) cluster performance is measured in value added: "a good performance is shown by a rise in the value added generated in the cluster" (Langen, 2002, p. 211). Plus, cluster performance depends on economic and institutional characteristics. Langen (2002) developed a framework to analyze cluster performance based on structure and cluster governance. The author identified four structural factors that influence cluster performance: presence of agglomeration economies; internal competition that fosters specialization; entry barriers that have a negative effect and exit barriers that tie firms to a cluster; heterogeneity of cluster population (economic activity, size, international presence, innovative strategy) that adds performance. Cluster governance can be defined as "the mix of and relations between different modes of governance, i.e. mechanisms to co-ordinate interaction in a cluster" (Langen, 2002, p. 212). The variables identified related to cluster governance were: the presence of trust and intermediaries that reduce transaction costs; the leader firm's behavior, since such firms treat the interests of the cluster as a whole; solutions for collective problems (e.g. education and training), which is a role of associations that act in the interest of their members and provide collective goods to cluster members. Therefore, the influence of the cluster on the company's performance is not a consensual topic in the literature.

The interest and analysis of clusters is not new, albeit it has been changing. This is a reality that year after year has captured more attention and different approaches and studies with dissimilar conclusions arise.

1.2. Internationalization: concept and theoretical frameworks

For different reasons, internationalization is a theme that has gained attention from distinct perspectives and from diverse actors: companies are concerned about making their operations more effective and efficient in a more competitive global environment; governments seek to ensure that the overall process has a positive effect on the national interest; trade unions are concerned with the impact on working conditions, wages and their own power (Welch & Luostarinen, 1988, p. 36).

For Welch & Luostarinen (1988), internationalization describes an “outward movement in an individual firm’s or larger grouping’s international operations” (p.37). They defined internationalization as “the process of increasing involvement in international operations” (p. 37). Calof & Beamish (1995) adopted a different perspective, defining internationalization as “the process of adapting firm’s operations (strategy, structure, resource, etc) to international environment” (p.116).

The internationalization strategy of the company can be materialized in different modes of entry to reach a target market: exports; contractual forms (licensing, franchising, management contracts, turnkey contracts, subcontracting, production sharing and strategic alliances), and foreign direct investment (FDI) (Dunning, 1988).

The most influential and traditional theory on internationalization is the Uppsala Internationalization Model, but other approaches like Born Globals, International New Ventures and Networks Theory are also relevant in this regard.

1.2.1. Uppsala Internationalization Model

Through an empirical research in four Swedish firms, Johanson & Wiedersheim-Paul (1975) and Johanson & Vahlne (1977) developed a model of the internationalization process of a firm: the Uppsala Model. This model describes a gradual process of

internationalization and is focused on the gradual acquisition and integration of knowledge and also on successively increasing commitment with foreign markets. Johanson & Wiedersheim-Paul (1975) identified four different stages that give rise to “the establishment chain”. In the first stage, the focus is on the domestic market and there is no regular exports activity, meaning a low resource commitment as a result of the lack of a channel of regular information about the market. In the second stage, there is a channel through which the firm receives regular market information, allowing a higher degree of commitment, and the firm starts to export, eventually using independent representatives (agents). In the third stage, the company sets up a sales subsidiary and controls the information channel. The last step is the establishment of a production/ manufacturing facility in the host market, which requires a large commitment of resources. As the firm goes through these steps, it can access more information, gain more experience and knowledge about the market, which is reflected in the degree of commitment and involvement that increases gradually.

Due to changes in business practices and theoretical advances, Johanson & Vahlne (2009) revisited the model and added some new considerations to the initial one. Contrasting with the neoclassical market, characterized by independent suppliers and customers, Johanson & Vahlne (2009) describe the business environment as a web of relationships and networks where all players are linked. Comparing the old and the revisited model, Johanson & Vahlne (2009) state that they “were not aware of the importance of mutual commitment for internationalization. Now our view is that successful internationalization requires a reciprocal commitment between the firm and its counterparts” (p. 1414). In this new approach, relationships became central, performing essential roles in internationalization: as channels for learning, creating new knowledge through the network and access certain types of knowledge that are confined to network insiders; relationships are important to build trust and commitment relations, which are preconditions to internationalize and have impact on the selection of the foreign market and on the entry mode, adding that “foreign market entry should not be studied as a decision about modes of entry, but should instead be studied as a position-building process in a foreign market network” (p. 1415). Johanson & Vahlne (2009) add: “internationalization depends on a firm’s relationships and network (...) expect the focal firm to go abroad based on its relationships with important partners who are

committed to developing the business through internationalization (...) focal firm is also likely to follow a partner abroad if that partner firm has a valuable network position in one or more foreign countries” (p. 1425).

One of the main contributions that lead this revision of the Uppsala Model, was the Network Model of Internationalization developed, based on business network research, by Johanson & Mattsson (1988).

1.2.2. Network Theory

According to Holm, Eriksson & Johanson (1996) “while most research on foreign market entry has focused on entry mode selection, our findings indicate that the development of cooperative relationships with customers, suppliers or other business partners may be critical” (p.1049).

The network model of internationalization is defined by Johanson & Mattsson (1988) as a “model that describes industrial markets as networks of relationships between firms” (p. 287), thus allowing the influence of external actors in the internationalization process. The authors assume “that firms in industrial markets are linked to each other through long-lasting relationships. They establish and develop complex, inter-firm information channels, and they also develop social and technical bonds with each other” (p. 290). Trust between partners is a condition to do business. To ensure that commitments are fulfilled, it is necessary to invest in strong relationships between suppliers and customers and establish contacts at several levels in the organizational hierarchies.

In the internationalization process, networks are a strategic resource that encourages and supports firms to go abroad. The industrial network model assumes that “firms depend on resources controlled by other actors, and that access to such resources can be gained through network positions” (Karlsen & Nordhus, 2011, p. 203). A common obstacle to internationalization is the lack of information and networks can have an important role to overcome this, as firms can transfer knowledge and share experiences gained from foreign markets and cooperate. This experimental knowledge “reduces the firm’s perception of market uncertainty or risk, which, in turn, impacts on commitment to

international markets” (Hadley & Wilson, 2003, p. 699). The network model views markets as networks of firms where firms establish relationships to obtain resources, sell products and get information about foreign markets (Karlsen & Nordhus, 2011).

At an international level and according to the network model “the internationalization of the firm means that the firm establishes and develops positions in relation to counterparts in foreign markets. This can be achieved: (1) through establishment of positions in relation to counterparts in national networks that are new to the firm – international extension; (2) by developing the positions and increasing resources commitments in those nets abroad in which the firm already has positions – penetration; (3) by increasing co-ordinations between positions in different national nets – international integration” (Johanson & Mattsson, 1988, p. 296). A more extensive network with internationally experienced actors and the firm’s international experience will enable the firm to get a better position within the network and perhaps skip some steps in the internationalization process.

Johanson & Mattsson (1988) used a framework where four situations of internationalization were identified: the early starter, the late starter, the lonely international and the international among other. The “Early Starter” firm has little or no experience in operating in foreign markets and its network is characterized by a low degree of internationalization, leading to a low commitment with foreign markets and weak information channels with foreign networks. In this type of firms, knowledge has to be acquired through interaction with the market (learning by doing) and could also be acquired through its network. However, since their network has a low degree of internationalization, the available knowledge resources are limited (Hadley & Wilson, 2003). The firm’s network has great relevance in the “Late Starter”, given that in this situation the firm has a low degree of internationalization but has a good home position within a highly internationalized network, leading the firm to internationalize through its network, perhaps without taking all the internationalization steps (Karlsen & Nordhus, 2011). Although network members do not have international experience, the “Lonely International” firm has a high degree of internationalization and a great degree of commitment to foreign markets. It has higher levels of experiential knowledge than both the Early Starter and the Late Starter (Hadley & Wilson, 2003). If a firm is

“International Among Others”, it has a high degree of internationalization and experience in integrating and coordinating its network positions through joint ventures, mergers and acquisitions leading to international independence (Karlsen & Nordhus, 2011).

According to network model, as firms go international and the degree of internationalization increases, the number of strong and high commitment relationships established all over the world increase, and their network becomes richer.

1.2.3. Born Global

Rennie (1993)’s study in Australia’s high-value added manufacturers identified two types of exporting firms: a more traditional with domestic-based firms and the born global firms. The first was the traditional exporting firm that, after having the core business well established in the domestic market, starts to export to foreign markets. The second type is born global firms, mainly small and medium-sized enterprises (SMEs), that start to export very early, on average two years after their foundation (Rennie, 1993).

The process of internationalization of a born global is accelerated as these companies possess a global vision and globalize very quickly without being a long period in the domestic market. According to Gabrielsson & Kirpalani (2004), born global firms “often rapidly globalize their business by methods that circumvent many of the existing international business research paradigms” (p.556). As their resources are limited and they cannot take a huge risk to reach new international business, they are usually organized with an alternative governance style, in which their distribution channels depend on hybrid structures, like close relationships or network partners. The authors identified the following channels used to minimize the risks taken: multinationals acting as systems distributing born global products/services; networks as partnerships for born global and the internet as a method to generate networks and do marketing, which is also a framework to overcome their lack of resources (Gabrielsson & Kirpalani, 2004).

1.2.4. International New Ventures (INV)

Contrasting with the traditionally expected characteristics of multinational enterprises, an international new venture is a “business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries (...) The distinguishing feature of these start-ups is that their origins are international as demonstrated by observable and significant commitments of resources (e.g., material, people, financing, time) in more than one nation” (Oviatt & McDougall, 2005, p. 31). Although “creating a global start-up does not guarantee it will be a success” (Oviatt & McDougall, 1995, p. 34) seven characteristics associated with the survival, growth and success of these ventures were identified:

1. A global vision of the founders and their ability to communicate that vision;
2. The accumulated international experience of founders or managers;
3. Strong international business networks, built during previous international experiences, which enables them to access important resources;
4. The possession of a distinctive advantage, for instance a distinctively valuable product or service, to enter in a foreign market with success;
5. Hold unique and intangible assets in order to sustain their advantage and to avoid being imitated by competitors;
6. Continuous innovation and ability to make extensions of the initial products or services;
7. Be coordinated on a global scale to access the resources need.

Although INVs have limited resources, recent technological innovations, low-cost communication technology and transportation allowed global start-ups to access business opportunities and compete successfully in multiple countries as well as mature corporations.

The network model and Resource Based View (RBV) are linked with INVs. As pointed by Nicole E Coviello & Cox (2006), due to the liabilities of newness and smallness INVs may not have access to the resources needed and “the networks of relationships can be valuable for providing access to partners resources” (p. 114). The resources

needed may not only be natural or physical resources, but can also be human capital: “network seems more important for the transfer of organizational and human capital than it was for psychical or financial resource flows” (Nicole E Coviello & Cox, 2006, p. 125).

1.3. Clusters and Internationalization

Being a cluster member and initiating an internationalization process may be separate strategies, but when used together they can add greater value and create more opportunities to grow and to expand abroad. “After local clustering, taking place between actors located in one region, it is time to create cooperative relations on a supra-regional and transnational networks, and establish cross-border clusters” (Kowalski, 2014, p. 183). As mentioned in section 1.1, networks and cooperation are important elements of a cluster and a channel to get more resources and access to knowledge. However, the internationalization of companies is another step that has to be taken in order to expand businesses abroad, have contact with other companies, develop new partnerships and access to valuable resources that are not available in neighboring clusters.

In this section these strategies will be explored and illustrated in more detail.

1.3.1. Clustered firm’s network

The network model applied to the international context explains how firms can have access and become integrated in external networks. This can also be applied to a cluster context, where clusters’ dynamics promote connection between firms and external networks through existing local/clusters networks.

In order to learn more about cluster dynamics, Karlsen & Nordhus (2011) developed an empirical study based on interviews with top managers and direct observation of SMEs located in the NCE Subsea regional cluster in Western Norway. They selected four companies that were part of the cluster since its foundation: two smaller firms with limited international experience (X and Y), representative of small cluster firms in terms of internationalization; and two medium-sized firms that were internationalized (Z and

W) firstly as “early starters”, but then became “international among others” as they made joint ventures and owned offices and production units abroad. Firms X and Y were “Late Starters” with limited international experience and internationalization was taken gradually. In their internationalization process, the network had an extremely important role, given that it encouraged firms to initiate this process and gave them support by providing information about foreign markets. Through their network, they knew which firms were already operating abroad, making it easier to find the best partners. They found that “Late Starter” firms rely on local/regional networks and the internationalization process is also driven by references from previous customers. When firms Z and W became “International Among Others”, they used the existing network not to initiate the internationalization process, but to go further abroad. They already had good positions in the local cluster, but the external network was most important to develop the international activity. Their accumulated experience and resources also enabled them to enter new markets. From this study other relevant findings appear: a strong motive to internationalize is the external demand from customers located outside the cluster; network positions give opportunities to enter other networks and markets; global network’ flagships have an important role because if less internationalized firms work with more experienced firms, they may be able to skip steps of the internationalization process.

This empirical study stresses the appropriateness and importance of network theory, the relevance of local and global networks and network positions, and the role of clusters’ dynamics in the internationalization process of clustered firms.

1.3.2. Role of leading firms in initiating cluster internationalization

As described in the previous section, the network has an essential role in starting and developing international activities. It is believed that some companies have a more determinant and influent role, leading other companies to start to internationalized. Rocha, Pereira & Monteiro (2007), aiming to “understand the process by which firms in a cluster start to export based on systemic interactions” (p. 1) and the diffusion process of exports, studied Brazilian furniture manufacturing clusters. From the furniture cluster, the firm Zipperer Industries was as a first mover in exports and had a determinant role in the whole cluster, as described as follows. When the company

started to export (it was the pioneer), the competition in the market grew, leading the company to increase its production by introducing new designs, which were later copied by other firms in the cluster. Later, the company got access to Canadian technology and started to export successfully to the European Market. Since Zipperer developed a good reputation in this market, the other firms of the cluster followed its example and started also to export to this market. According to the interviews developed by Rocha *et al.* (2007), Zipperer Industries played a role as a flagship in the exporting activity, which was recognized by the other cluster members, and “provided the initial pool of trained workmen to new firms in the region” (Rocha *et al.*, 2007, p. 6). The path of Zipper Industries was immediately followed by Artefama that also started to export, invested in new facilities and equipment and, according to Rocha *et al.* (2007), quickly exported almost 100% of its total output. “Artefama had a similar role, by taking the position of flagship firm, and leading the cluster in its recent export drive. The company was not an innovator, but became a more successful exporter than the pioneer firm” (Rocha *et al.*, 2007, p. 6). In this internationalization process, external agents were the most important in “transferring know-how and facilitating export initiation and diffusion” (Rocha *et al.*, 2007, p. 13). International and domestic export intermediaries played an important role: the cluster was visited by export agents that were responsible to the identification of distributors and retailers in foreign markets; importers were important as they brought new technical standards. Furthermore, support institutions had a role in the diffusion of the process: “to accelerate the adoption of exporting in the industry by providing funds, technical and marketing support. Joint efforts between government agencies and the industry association permitted the creation in 2004 of a national program for the development of furniture exports” (Rocha *et al.*, 2007, p. 7). This research illustrates the role of first movers and leading firms in initiating the internationalization process of a cluster. However, for this process to take place, the support from external agents was essential.

1.3.3. Cluster’s resources

Another perspective is relevant to have a complete understanding of the internationalization process through cluster dynamics: the resource-based view (RBV). This framework underlines the importance of resources created within the cluster, and their influence in the internationalization process of clustered companies.

Following the RBV, Molina-Morales (2001) noted that companies within a cluster benefit from valuable shared resources, which are difficult to imitate or substitute and are unavailable to companies outside the cluster. That gives firms competitive advantages and provides market opportunities, making them more successful than companies that do not belong to geographical agglomerations. According to Zen, Fensterseifer & Prévot (2011), a cluster is an economic agent resulting from the synergies exchanged between companies and institutions present in the cluster. A cluster's environment is characterized by a high propensity for firms to cooperate which enhances spillovers, making also possible development cooperation agreements to share needed resources and creation of new resources. Therefore cluster resources result from spillovers, also "called industrial atmosphere by Marshall (1890), which may function as mechanisms of resource transference, access, and acquisition; physical proximity is a facilitator of spillovers of knowledge, innovation, technology" (Zen *et al.*, 2011, p. 127).

Zen *et al.* (2011) note three types of resources in a cluster identified by Wilk & Fensterseifer (2003): "systemic resources" that can be shared by all clustered companies and increases competitive advantage when compared to companies outside the cluster and other clusters; "restricted-access resources" that benefit only a limited number of clustered companies leading to different levels of competitiveness among clustered companies; and, finally, "singular resources", which belong to individual companies and are strategically maintained isolated by appropriate mechanisms, as they are the main source of sustainable competitive advantage for the company. The restricted-access resources are an example of cooperation between companies with the same interests and objectives: "groups of companies with specific goals within the cluster, such as inter-organizational networks for internationalization, may create resources accessible only to companies that are part of that group" (Zen *et al.*, 2011, p. 128).

Although some resources are available in the cluster, neither all companies have the same ability to use them neither same level of absorptive capacity, leading to differences in competitive performance within the cluster (Cohen & Levinthal, 1990). Firms can take advantage of proximity using local networks and networks position to have access to cluster resources, reducing asymmetries in absorptive capacity.

Zen *et al.* (2011) suggest that clusters have “an important impact on companies’ competitiveness and international insertion by means of resources created by inter-organizational relations within the cluster and appropriately combined with singular resources” (p. 128). They propose that firms should use simultaneously internal resources or singular resources and cluster resources as they can be complementary.

A cluster as an organization will promote cooperation between firms encouraging them to work together in the development of new products, and to share resources.

Based on the assumption that cluster resources accessed by clustered companies have impact on market performance and in internationalization strategy, Zen *et al.* (2011) studied two cases involving small companies located in wine clusters of Provence (south-eastern France) and Serra Gaúcha (south of Brazil), that were both in the initial stages of their internationalization process. According to the interviews developed in the Soleil Winery (fictitious name), located in the Provence Cluster, the main reasons to internationalize were market diversity, risk reduction and reduce dependency on domestic market. The strategy chosen to internationalize was mainly via fairs and construction of distribution network. Interviewees pointed out that the Provence Cluster was important for the internationalization process because it stimulated cooperation networks and encompassed institutions that provided information about international markets (market studies). The main problem highlighted by interviewees was the lack of knowledge which was overcome through cluster networks. Horizontal cooperative relations among the region’s wineries were also noted, as they contribute to reduce costs and share risk. With interviews developed with Serra Winery (fictitious name), located in the Serra Gaúcha Cluster, other findings came up. The reason to internationalize was to develop an image for Brazilian wine abroad but it was also the main obstacle faced, given that Brazil does not have image as wine producer. The strategy adopted was the presence in international wine fairs and development of an international project supported by an important Brazilian Wine representative. For companies integrated in the project, there were benefits like less costly access to fairs, training courses and information about international markets. A relevant conclusion came up: the country of origin effect was an obstacle at first, but then it was transformed into an opportunity. Some cluster resources were mentioned as having a positive effect on

internationalization: the existence of professional institutions and technological research institutions; wine tourism infrastructure and logistic infrastructure; access to legal information about foreign markets and access to credit aimed to producers. Horizontal cooperative relationships among region's wineries were particularly important in the beginning of the internationalization process for both clustered companies.

This empirical study illustrates how firms may benefit from belonging to a cluster. Clusters provide information, stimulate cooperation and help to raise funds. Although the reasons to internationalize mentioned are different, firms have incentives to cooperate and being part of a cluster, and they recognize the importance of the cluster in the process.

1.3.4. Role of temporary clusters in establishing global pipelines

As mentioned in Zen *et al.* (2011), one of the main internationalization strategies adopted was the presence in international fairs. Fairs, exhibitions, conventions, congresses and conferences are options available to firms to identify potential pipeline partners and “successfully establish a long-distance business link, i.e. a global or translocal pipeline (Maskell, Bathelt & Malmberg, 2006, p. 998). In these events “latest and most advanced findings, inventions and products are on display to be evaluated by customers and suppliers, as well as by peers and competitors. Participation in events like these helps firms to identify the current market frontier, take stock of relative competitive positions and form future plans” (Maskell *et al.*, 2006, p. 997). The participation in fairs and conventions it is an internationalization strategy with a huge potential that brings many advantages as the following identified by Maskell *et al.* (2006): identify and select partners that provide access to distant markets and knowledge pools; it is an important meeting points for related industries where social relations with customers are intensified and also to attract new ones; it is an environment that allows exchange of information between suppliers and customers about recent market trends, experiences and requirements for future products and services; it these places meetings with suppliers that are located in different regions and nations take place to discuss technological changes in product specifications.

According to Maskell *et al.* (2006) these events of knowledge exchange, network building and sharing of ideas can be seen as temporary clusters “because they are characterized by knowledge-exchanging mechanisms similar to those found in permanent clusters, albeit in a short-lived and intensified form”. Moreover Maskell *et al.* (2006, p. 999) state that “temporary clusters are significant vehicles for the integration of local and global communication flows and the connection between distant pockets of knowledge in different parts of the world”. “Temporary clusters” cannot be separated from “permanent clusters” but are complementary. This approach highlights the potential of these events in the internationalization process of companies, allowing and reinforcing the interaction between distant companies.

1.3.5. Cluster’s reputation

Zyglidopoulos, DeMartino & Reid (2006) developed a new perspective about the influence that cluster may have in the internationalization of clustered firms, stating that solid cluster reputation can assist cluster firms, especially SMEs, in this process in two ways: dealing with the resource constraints such as lack of capital or of international business experience; allowing the cluster to attract valuable resources that sooner or later local firms can draw on. The authors identified two constraints faced by SMEs that can be overcome: managerial and financial constraints. The first relates to the difficulty of attracting and keeping talented managers and scientists and to attract managers with international experience. According to Zyglidopoulos *et al.* (2006) a solid cluster reputation will attract and keep scientists and talented managers that may have international experience and, therefore, increase firms potential to internationalize benefiting from their international contacts. The financial constraint may be overcome through reputation, as investors will rely on cluster reputation where SMEs are located and under well-reputed cluster consider them less risky to invest. Moreover, a well-reputed cluster will be able to attract technological infrastructure. With this approach Zyglidopoulos *et al.* (2006) come up with a new perspective how cluster can support the internationalization process of firms, through clusters tools to overcome some obstacles that firms face.

1.3.6. The impact of firm internationalization on regional clusters

De Martino, Reid & Zyglidopoulos (2006) made an important contribution exploring the impact of firm internationalization on regional clusters. Supported by cluster life-cycle they found that “as locally established firms internationalize, they often reduce their degree of local collaboration and interaction” (p. 3) which it is explained by mature and capabilities gain by entrepreneurial firms. De Martino *et al.* (2006) suggest a life-cycle progression which is associated with growth of small firms and their interaction within a local environment: “cluster-based start-up firms emerge with limited administrative and technical capabilities and, as a result, rely extensively upon the resources available within their local region; as they grow, however, and their capabilities increase, they make strategic choices that influence their local interaction and collaboration” (p.21). The authors conclude that in the cluster simultaneously there will be firms with different maturity levels: there are start-up firms that due to limited capacities need more support and interact with the cluster; as the companies become mature, develop capabilities and new operations, becoming less interactive within their cluster region;

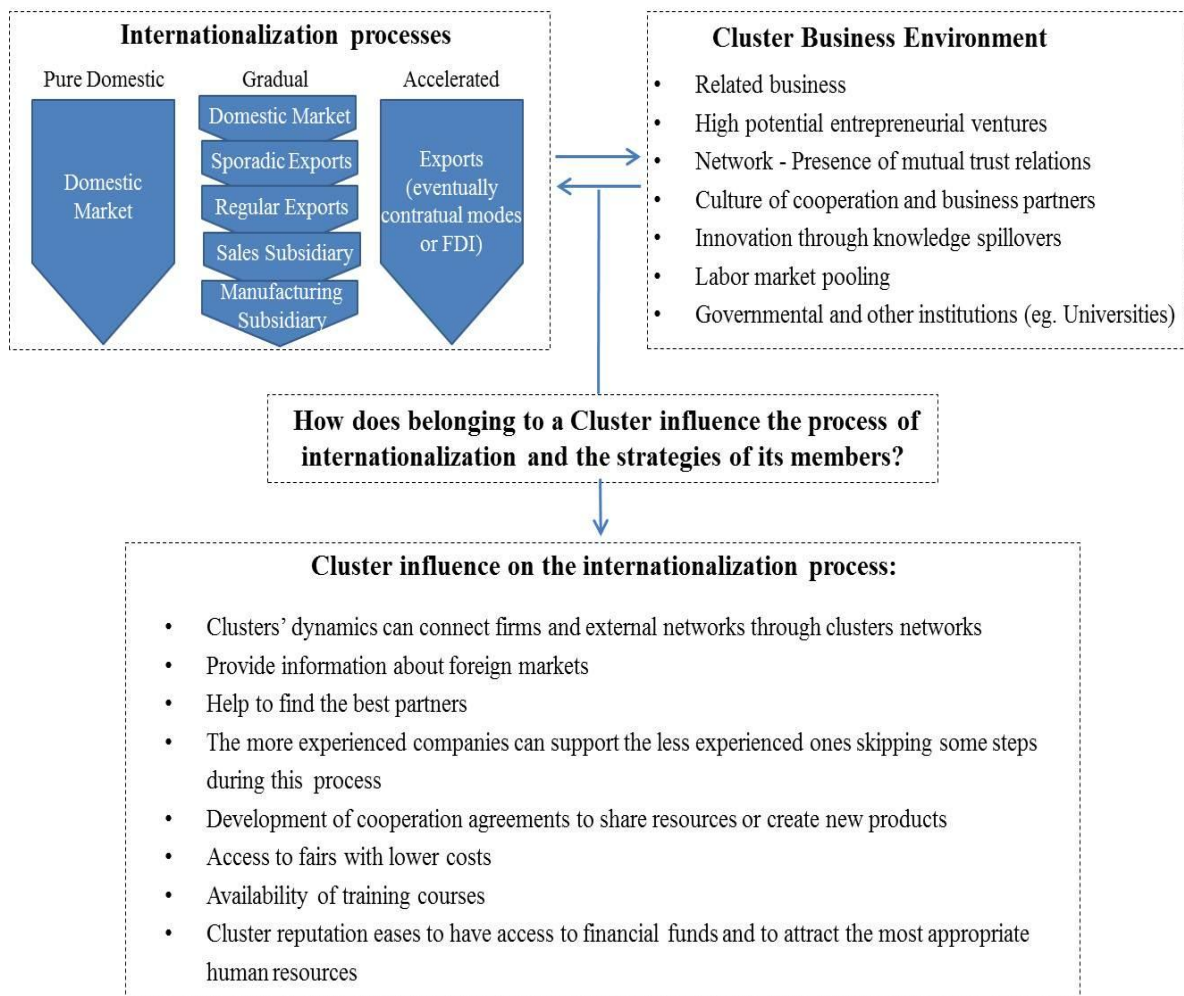
As demonstrated in this chapter a cluster can be a facilitator in the internationalization process and it may have an impact on its members’ strategy. “Clusters are subject to internationalization at two levels: the micro level, or the level of firms taking part in clusters; the meso level or the cluster as a whole – through the actions undertaken by cluster coordinators, which work for establishing cooperation at the international level” (Kowalski, 2014, p. 184). Moreover networks and clusters can be considered as helping mechanisms in the internationalization process given that they “enabled affiliated companies to reach their foreign target markets more easily and successfully than without the assistance of the network” (zu Kölker *et al.*, 2011, p. 7).

The dissertation will explore these ideas in more detail, with an empirical application trying to assess the extent to which clusters influence and leverage the internationalization process of its members.

1.4. A synthesis of the literature review

Currently there is a huge diversity of studies and theories that separately address the themes of internationalization and clusters. These issues have been researched by different authors from diverse perspectives, contributing to the enrichment and general understanding of the topic. The influence of the cluster in the internationalization process of companies is a topic that has captured the attention of some researchers (Karlsen & Nordhus, 2011; Zen *et al.*, 2011; Zyglidopoulos *et al.*, 2006), but the number of studies focused on this perspective is limited. Figure 1 shows a synthesis of the most important topics that have been investigated and discussed in the literature.

Figure 1: Synthesis of the literature review



Source: Own elaboration.

The existing theories or models that describe internationalization processes that can be pursued by companies are the following: Uppsala Internationalization Model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975); Born Global (Gabrielsson & Kirpalani, 2004; Rennie, 1993); International New Ventures (Nicole E. Coviello, 2006; Oviatt & McDougall, 1995, 2005). A more careful analysis of these theories allows us to conclude that there are only three different pathways: a company that has a strategy focused exclusively on the domestic market (pure domestic); a firm that develops a gradual internationalization strategy as described in the Uppsala model or, alternatively, a company with an accelerated strategy of internationalization, corresponding to a born global or international new venture.

The relevant literature available about clusters is focused on the potential of the external environment. Clusters are described as an environment where different types of players are present, such as companies, research or governmental organisms (Porter, 1998), and are linked by a common goal or cause. The companies that form a cluster have mutually related business (Langen, 2002) and are characterized by a high potential to entrepreneurship (Delgado *et al.*, 2010) driven by the culture of cooperation and a huge propensity for innovation (Engel & del-Palacio, 2009). The network is a key factor in a cluster. Through the network experiences are shared, knowledge spillovers occur and partnerships are established (Iammarino & McCann, 2006; Maskell, 2001). Within a cluster there is a group of relevant actors and a concentration of specialists in various fields of knowledge that together have more power than when acting individually.

Addressing the cluster theme, but with a focus on the context of internationalization of companies, some authors came up with the conclusion of how the cluster can stimulate and give support to its members. As mentioned previously, within a cluster there is a huge variety of actors and each one has its own network. When all the actors that integrate the cluster get in touch and share their contacts, the clusters' network gets a huge dimension and potential, which can help them in the internationalization process (zu KÖcker *et al.*, 2011). Through the clusters' network, it became easier to find the best partners or to get information about foreign markets, which are obstacles faced during the internationalization process that can be overcome or minimized with cooperation strategies (Karlsen & Nordhus, 2011).

Within a cluster it is possible to find companies that are crossing different stages of internationalization. The cooperation promoted between the more experienced and the less experienced companies, enables the less experienced company to skip steps in the internationalization process (Karlsen & Nordhus, 2011). This cooperation can be also expressed when development agreements take place with the aim of sharing resources or creating new products, contributing to strengthen the competitive advantage in international markets (Zen *et al.*, 2011).

In order to do market research, develop contacts in foreign markets and to exhibit the product range, a common strategy is to participate in international fairs. The research by Zen *et al.* (2011) concluded that clusters enable firms to have access to fairs with lower costs. Furthermore, a study about the impact of clusters reputation in internationalization indicates that a good reputation helps a firm to get easier access to financial funds necessary to support the internationalization process and is also important to attract specialized human resources (Zyglidopoulos *et al.*, 2006).

Internationalization and clusters are themes that at first sight may not to match. However, the combination of both has been proven to have a magnifying effect on the ability of the company to establish itself in the international markets.

1.4.1. Framework

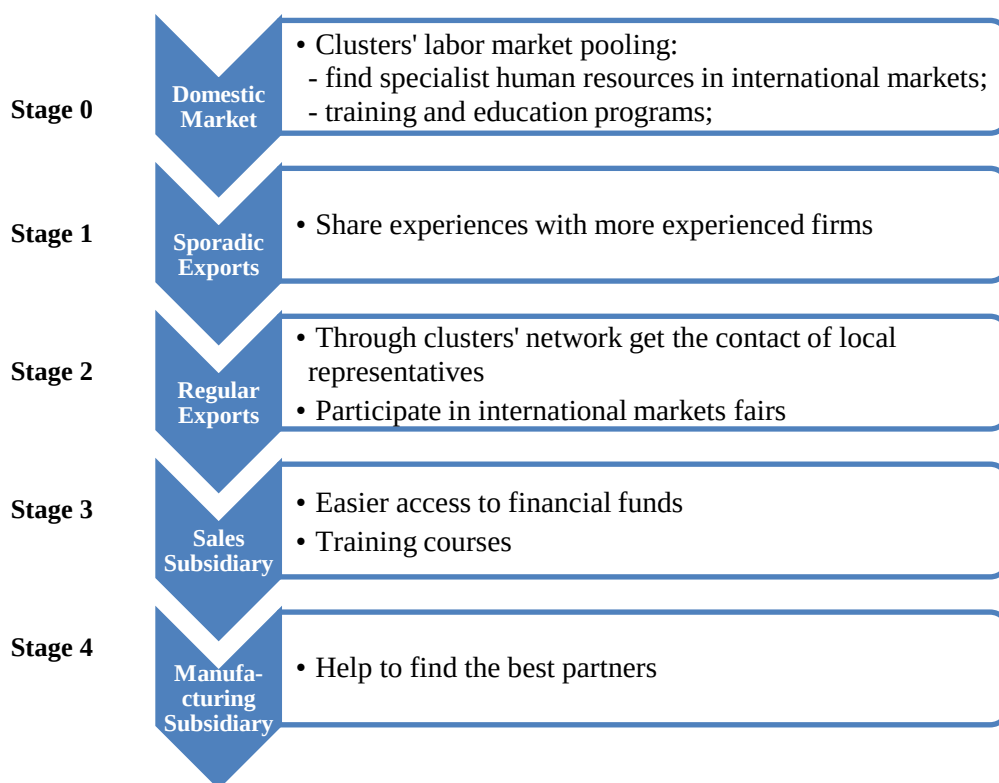
The internationalization process of a clustered company results from a complementary relation between the internal conditions of the company and the resources and services that the cluster can provide. Considering the potential of clusters in the internationalization process and the type of process (gradual or accelerated), a framework was developed based on the literature review contributions from clusters and from internationalization. The aim of the framework is to have an overview of how a cluster in different scenarios can give support and make the difference in each internationalization process.

The support that the company may draw from the cluster will depend on: how evolved is the process of internationalization (if it is starting or if the company is already in a more advanced stage of involvement) and the type of pathway taken (gradual or accelerated).

- Hypothesis 1: The Company adopted a gradual internationalization process.

As shown in the figure below, this first hypothesis corresponds to the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) consisting of a gradual internationalization process with the following phases: establishment in domestic market, beginning of internationalization with exports, setting up of a sales subsidiary and, if applicable, setting up a manufacturing subsidiary.

Figure 2: Influence of the cluster in a gradual process of internationalization



Source: Own elaboration, inspired in an integration of relevant conceptual literature.

The internationalization process model posits a higher commitment with international markets as the knowledge about the market and available resources increases. Firstly, the firm establishes activity in the domestic market (stage 0) and then starts with sporadic or non-regular export activities (stage 1). In this initial phase, between stage 0 and stage 1, the company can benefit from the cluster resources: access to labor market pooling where the company may find specialist human resources in international

markets, get access to training and education programs with lower cost (Langen, 2002; Zen *et al.*, 2011).

In stage 1, when the company starts sporadic exports, it lacks a channel of regular information, which makes the access to information a major obstacle. In this situation, through the cluster network it becomes easier to find a person with experience in that market that can provide information and give advice. At this initial stage, to share experiences with more experienced companies is very important to define the company's strategy and to identify potential target markets (Karlsen & Nordhus, 2011).

Three sub phases can be distinguished during the export phase:

1. beginning of exports activity with occasional exports;
2. establishing and consolidating exports activity;
3. regular and established exporting activity.

This process could take more time if the company does not have the support of the cluster. In order to skip to regular exports (stage 3), the company can through the cluster network get in touch with external agent such as local representatives and get general information about the market, receive recommendations on the necessary adaptations to make sure the product fits the market or receive support in legal aspects (Rocha *et al.*, 2007). After deciding which are the target markets, it is important for the company to be present in international fairs. The company can do it through the cluster at a lower cost (Zen *et al.*, 2011).

A higher commitment of resources and involvement with the international markets is required when the firm establishes a sales subsidiary (stage 3) and the effort is even higher with the foundation of a manufacturing subsidiary (stage 4) (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). In these stages belonging to a cluster can make a difference and support the company.

As a consequence of the good reputation of the cluster, the company can get easier access to funds that are needed to start these operations (Zyglidopoulos *et al.*, 2006). Moreover, through the cluster's labor market pool, the firm can get training courses to

be prepared to go to foreign markets or to recruit the human resources needed (Porter, 1998). Furthermore, the cluster's network makes it easier to find the best partners in foreign markets (Karlsen & Nordhus, 2011).

This internationalization process is taken gradually by the company because of the lack of resources and information about international markets. As demonstrated, the cluster can have a very positive influence and help accelerate this process.

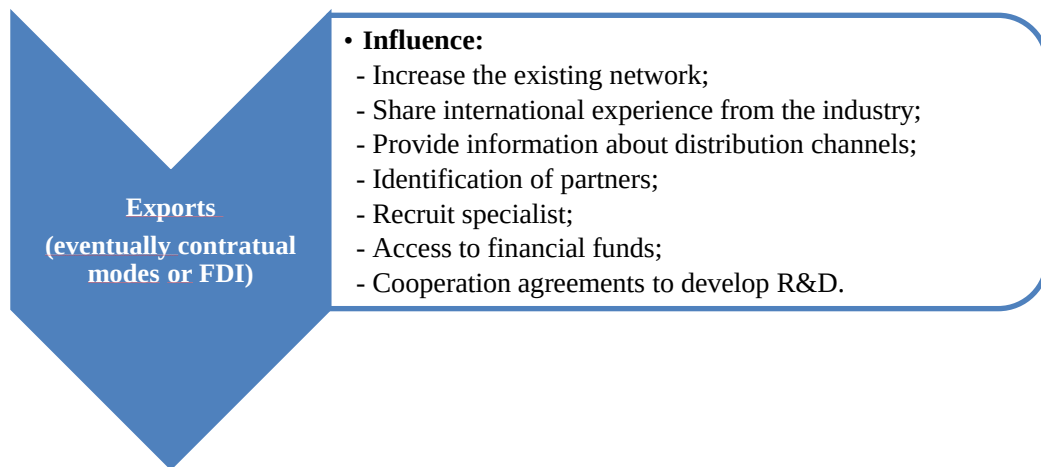
- Hypothesis 2: The Company adopted an accelerated internationalization process.

The accelerated internationalization process is characterized by a quick presence in the foreign markets since the firm's foundation (Oviatt & McDougall, 2005) or without being a long period in the domestic market (Rennie, 1993). This rapid internationalization can occur due to the international experience of founders or managers that already have a global vision and strong international business network (Oviatt & McDougall, 1995). Their strategy is mainly focused on distribution channels that depend on close relationships or network partners (Gabrielsson & Kirpalani, 2004)

One of the main assets of the cluster is its network, but these companies already have a good network resulting from the accumulated experience of their founders. However, the founder may have experience in international markets, but not in that specific industry. Since within the cluster there are firms from related businesses, they could help to increase the existing network and share the international experience from that industry (Maskell, 2001). Clustered companies could cooperate by sharing information about the distribution channels operating in each market or identification of partners from whom they have good references. Companies with accelerated processes usually have limited resources, but make a huge commitment with various nations very early (Oviatt & McDougall, 2005). In the beginning of the process, the company may still need some resources that can be provided by the cluster: help to recruit specialists to join their team and to access funds (Zyglidopoulos *et al.*, 2006). Even though the company already has several contacts and experience, the cluster can help to supplement the existing information and thereby assisting the internationalization.

Companies with accelerated processes make significant investments in innovation, creating innovative products and services and taking advantage of new communication technologies to be in touch with their partners or clients (Oviatt & McDougall, 1995). A cluster represents a favorable environment for entrepreneurship and an important contribution that the cluster can give these companies is in R&D through the establishment of cooperation agreements between member companies and institutions (Zen *et al.*, 2011). Being a member of the cluster, the company is not just limited to internal resources, but it also has access to cluster's resources (Molina-Morales, 2001).

Figure 3: Influence of the cluster in an accelerated process of internationalization



Source: Own elaboration, inspired in an integration of relevant conceptual literature.

Depending on the profile of the company and its needs, a cluster has various tools available to intervene.

In hypothesis 1, where the company has a gradual internationalization process, the main contribution of the cluster could be in extending the network to a global network, in order to overcome the lack of experience in international markets and help accessing resources. In hypothesis 2, accelerated internationalization process, the actions taken by the cluster will be more directed to exchange of knowledge, e.g. information about trends or distribution channels. Despite the firm has already some experience in international markets and a good network, it has limited resources and the cluster members can provide access to resources.

Chapter 2. An Empirical Study on the Influence of Clusters on Firms' Internationalization: The Case of Portugal Foods

This chapter includes the empirical part of this dissertation. It starts with a section about methodology, including explanations about the criteria for selection of the cluster and the companies that comprise the sample used in this research. In the following section, case studies are presented as a result of the data collected and are followed by individual and comparative analyses, where patterns of behavior are extracted. The chapter ends with an analysis of the results that are contrasted with the relevant theoretical and empirical literature and with the framework developed.

2.1. Methodology

This subchapter is focused on the methodology that was chosen according to the research question and the objectives established. Having in mind that the main goal of this investigation is to understand to what extent and how has the cluster influenced the process of internationalization of the associated companies, the methodology applied was qualitative through the case studies method and data collection was made through in-depth interviews to the selected companies.

The qualitative methodology was deemed the most appropriate to analyze this interactive and dynamic phenomenon that occurs between the companies and the cluster. Qualitative methodologies are used to analyze social phenomena, aiming to understand the behavior of people and organizations. It is a descriptive and inductive investigation in which the researcher develops ideas from patterns found from documents, interviews and observation (Sousa & Baptista, 2011, p. 56). Aiming to define a qualitative research, Cassell & Symon (1994) highlighted the following characteristics: “a focus on interpretation rather than quantification; an emphasis on subjectivity rather than objectivity; flexibility in the process of conducting research; an orientation towards process rather than outcome; a concern with context - regarding behavior and situation as inextricably linked in forming experience; and finally, an

explicit recognition of the impact of the research process on the research situation" (p. 7).

Considering the purpose of the investigation and within the qualitative methodology, the method chosen was cases studies that are widely used in organizational studies and across the social sciences and it is a method that is increasingly being chosen with a growing confidence as a rigorous research strategy (Kohlbacher, 2006). This is a research method used to investigate in depth a contemporary phenomenon in a real-life context for instance an individual, a group, social or political phenomena. In economics and management this is a common method when a structure of an industry, economy of a city or region is being studied, or even a small group behavior or international relations, allowing the researcher to retain the holistic and meaningful characteristics of real-life events (Yin, 2009). For this research, according to thoroughly criteria, a sample of clustered firms was selected (section 2.1.3) and their process of internationalization and interaction with the cluster is deeply analyzed.

Within the case study method there are two approaches: single- and multiple- case studies. Since each selected company represents a different reality and path, this dissertation's design includes multiple-case studies, and implements a comparative case method – which is a model increasingly used in recent years (Yin, 2009). In multiple case studies, conclusions are obtained through analytic generalization: “previously developed theory is used as a template with which to compare the empirical results of the case study” (Yin, 2009, p. 38). Furthermore, “the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust (Yin, 2009, p. 53)

Among the various research methods there are exploratory case studies, descriptive case studies, or explanatory case studies. The exploratory case studies was the chosen research method and it is consistent with the preposition of Yin (2009) according to which the formulation of the research question will determine what type of methodology the researcher should use: “how and why questions are more explanatory and likely to lead to the use of case studies, histories, and experiments as the preferred research methods. This is because such questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence” (Yin, 2009, p. 9).

According to Sousa & Baptista (2011) usually exploratory studies have multiple cases. The aim of this investigation is to analyze the influence that a cluster has during the period of internationalization of clustered companies, since it is a continuous process which requires a thoroughly descriptive analysis to explain and systematize such influence.

Considering that appropriate data to develop the empirical application is not available from secondary sources, this study had to gather original primary data, through detailed interviews using qualitative methods. To understand the cluster's influence, a profound contact with the companies is required. Only through personal interviews it was possible to understand the reality of each company and analyze the phenomena of interactions. This technique of data collection is the most appropriate since it has the advantage of having more effective responses through the direct interaction between the interviewee and the researcher and the opportunity to deepen the most relevant issues (Sousa & Baptista, 2011, p. 79). However, this technique also has some disadvantages, for instance the possibility of inconsistent responses and depends on the ability of people to verbalize their ideas (Sousa & Baptista, 2011, p. 86).

In similar studies previously developed, that also seek the mechanisms of influence within the context of the cluster and internationalization, usually adopt a qualitative methodology through interviews. For instance the authors Karlsen & Nordhus (2011) of the research "Between close and distanced links: Firm internationalization in a subsea cluster in Western Norway" applied the following methodology: "Data were collected through interviews with top managers and observations during cluster-related meetings (...) One in-depth interview was conducted for each case firm. The interviews were flexible, so that follow-up questions and clarification could be resolved face-to-face, in contrast to a survey with predefined categories." (Karlsen & Nordhus, 2011, pp. 202-208). Similarly Zen *et al.* (2011) in the research "Internationalization of Clustered Companies and the Influence of Resources: A Case Study on Wine Clusters in Brazil and France" adopted the following methodology: "an extensive literature survey was carried out, followed by in-depth interviews with experts". (Zen *et al.*, 2011, p. 132).

Therefore, the qualitative methodology with the case study method and the technique of collecting data through in-depth interviews were deemed the most appropriate

methodology for the study given the research question and its goals. Moreover, the analysis of the collected data was made through a qualitative analysis aided by some descriptive statistics to support identification of some tendencies. As it is shown in section 2.1.3, the selected companies are grouped in 4 different categories that portray different internationalization paths. Aiming to understand (1) the influence of the cluster in each internationalization pattern; (2) if there are significant differences between each patterns (categories) in terms of cluster's influence; and (3) evaluate the overall influence in clustered companies, the analysis of the data will be separated in an (1) individual analysis; (2) comparative analysis between categories and (3) an overall, encompassing analysis.

The flowchart in Figure 4 shows synthetically the methodology adopted.

The following methodology sections are dedicated to explaining how interview guidelines were developed, the reasons behind the choice of PortugalFoods as cluster analysis target, the criteria for selection of companies and data gathering procedures.

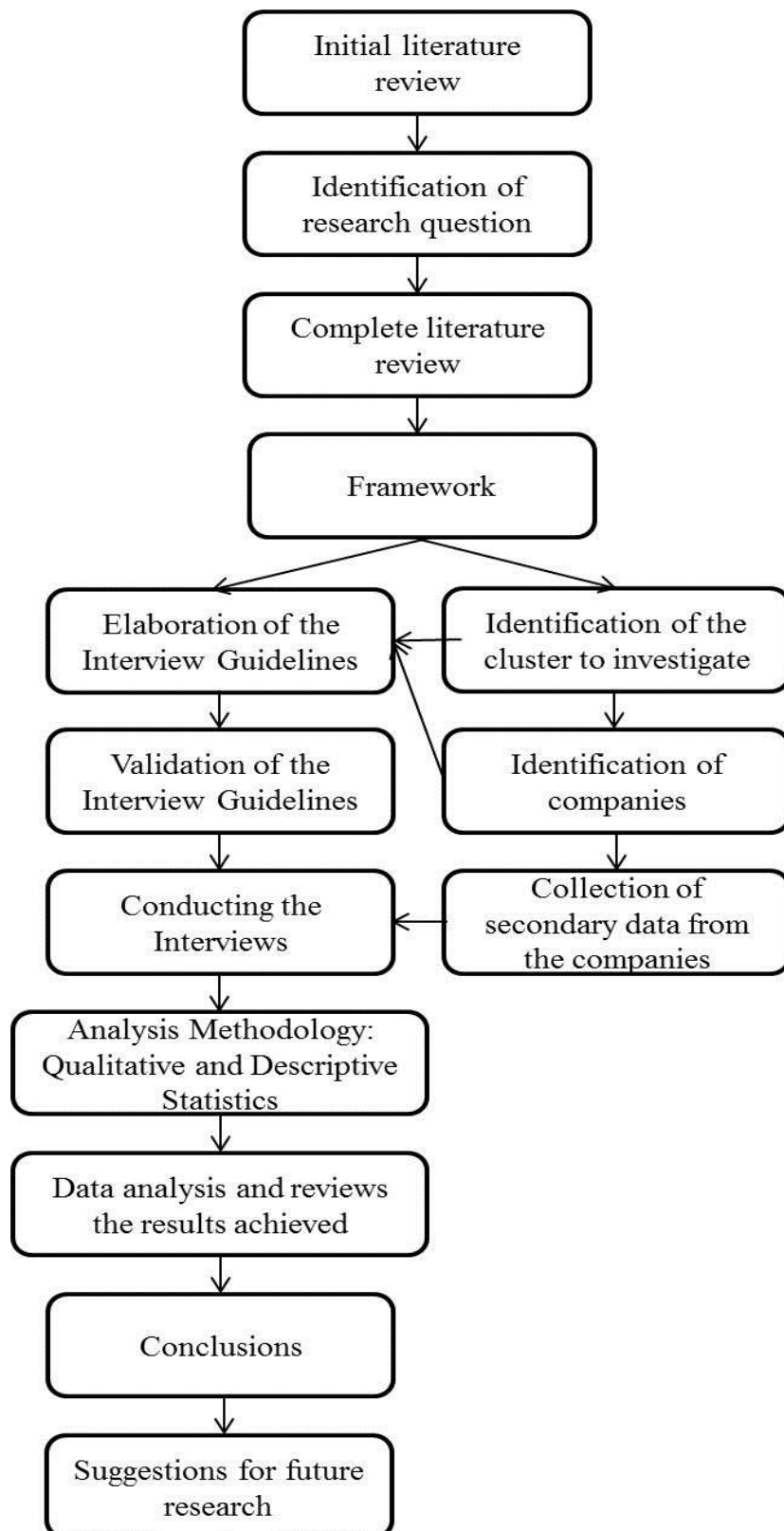
2.1.1. Interview Guidelines

The method of collecting data through interviews can be divided into: non-structured interview where there is no script; semi-structured that contains a script with questions or topics to be addressed; structured interviews with a script consisting of ordered and structured questions (Sousa & Baptista, 2011, p. 80)

The interview guidelines were developed especially for this research, based on the literature review and according to the aims of this study. The interview guidelines (Appendix A) are in-depth and structured and are divided into the following three sections:

- A - General company data;
- B - Internationalization process;
- C - Influence of PortugalFoods in the internationalization process.

Figure 4: Synthesis of the Methodology



Source: Own elaboration.

There are open questions and closed questions for which we developed several hypotheses to be classified by the interviewee using 5-points Likert scales: 1 – Nothing Important; 2 - Not very important; 3 - Moderately important; 4 - Very Important; 5 - Extremely important. In situations where this scale was not applicable the possibility of answers with 0 - not applicable was also considered.

2.1.2. Why PortugalFoods as an empirical base?

The empirical part of the dissertation is based on a study of the Portuguese agrofood sector cluster (PortugalFoods), and on a group of relevant members of that cluster.

Founded at the end of 2008 by the initiative of some of the current members, PortugalFoods is an association formed by companies and by entities of the scientific and technological system and regional and national bodies that represents various subsectors in the Portuguese agrofood sector. PortugalFoods has currently 98 members: 11 associated universities, 78 companies from various subsector of the agrofood sector and other 9 companies that develop related activities. Associate companies have different size; yet, SMEs dominate. From 78 associated companies: 56% are SMEs; 26% are large companies; 18% are micro enterprises (data provided by the leadership of PortugalFoods in August 2014, according to the European classification of companies (Europeia, 2003)).

Immediately after foundation, in 2009, PortugalFoods was recognized by the Ministry of Economy and the Ministry of Agriculture as the main partner and facilitator in terms of the Portuguese agrofood sector (PortugalFoods, 2014).

The main goal of PortugalFoods is the production and sharing of knowledge to support innovation and competitiveness. To achieve that, PortugalFoods divides its annual action plan into two main areas: innovation, which is in charge of the “knowledge division”, and internationalization, that is under the competence of the “market division” (PortugalFoods, 2014). In the R&D plan, among other initiatives, PortugalFoods promotes joint activities of R&D thereby encouraging collaboration between members (firms and entities of scientific and technological system). Although these two areas are complementary and interconnected, in this investigation the main focus is the internationalization area.

PortugalFoods is the "umbrella" brand of the agrofood Portuguese sector through which products, brands and Portuguese companies are represented in international markets. PortugalFoods develops an annual action plan for internationalization where, depending on the characteristics of each market, they organize and invite associated companies to participate in diverse initiatives:

- International fairs in priority markets under the PortugalFoods brand – during the fairs bilateral meetings, tastings events, visits to retail and networking actions are promoted allowing the exchange of information and contacts;
- Business missions - the Portuguese companies are invited to visit markets identified as strategic to conduct meetings with potential partners / customers;
- Inverse missions importers / distributors in Portugal. - where some important players are invited to visit the associated companies;
- Promotional actions within International Retail Chains - action for advertisement and promotion of Portuguese products;
- Workshops / seminars / conferences to share experiences and knowledge on international markets.

Beyond these initiatives PortugalFoods has a national and international observatory that produces reports tailored to specific member needs, for instance reports that reveals trends in world markets. Moreover, within the advantages for the associates identified by PortugalFoods there is the opportunity to integrate the “list of elected” that foreign importers and distributors often ask to PortugalFoods, being another tool of promotion of the associated companies, promoting contact between the associates and important players of retail or even clients (PortugalFoods, 2013).

PortugalFoods has a notorious work in the internationalization area and achieved in 2014 the highest distinction, within the category of Support for Internationalization of Enterprises, of the European Enterprise Awards Promotion with its "Love at First Bite" project: “focused on the preparation and organization of 21 internationalization actions that took place between January 2012 and December 2013, and in which 105 companies participated. Actions that contributed increase exports in the sector” (OJE, 2014).

PortugalFoods was the chosen cluster for this study as it was considered the most interesting in Portugal regarding the theme under analysis. It has a huge diversity of companies with distinct internationalization processes allowing a diversified sample for the study. Furthermore, as shown, part of their activities and initiatives are focused on supporting and promoting internationalization of its members.

To ensure that it was possible to interview a selected number of clustered firms, a special protocol of collaboration was secured with the leadership of the cluster, and two interviews conducted with the management of the cluster:

- 5th November 2014 - first meeting to present the project research and establishment of the protocol;
- 13th June 2014 - second meeting with the goal of making a final analysis of the selection of firms to be interviewed.

2.1.3. Criteria for selection of companies

To develop the empirical application, companies from PortugalFoods were carefully selected, in order to have a diverse and representative sample.

Since the main criteria to select the companies was the internationalization process, some companies are in the early stages of internationalization and others are further internationalized. The entry modes to internationalize were also carefully investigated aiming to include in the sample exporting companies and FDI developers. Other criteria used to select the companies were: foundation year and the beginning of international activity; number of international markets where the company is present and internationalization strategy. These criteria allow distinguishing which companies are currently more or less involved in internationalization process.

Considering the criteria of selection, companies were grouped according to internationalization processes and export profile. The majority of the associated companies of PortugalFoods are mainly exporters. Therefore 4 distinct groups of companies emerged:

1. Taking the first steps in exports;

2. Developing exports activity;
3. Consolidated exports;
4. Exporting companies with FDI.

The 3 first groups are companies focused only on exporting activity while the last group has export activity but had already expanded abroad through joint-ventures (JV) and / or wholly-owned subsidiaries.

Grouping companies following the internationalization process criteria allow verifying: if the interaction with the cluster changes according to the degree of internationalization; if the cluster has the ability to adapt its mechanisms according to company stage and path of internationalization.

2.1.4. Data gathering procedures

After defining the research sample, the leadership of PortugalFoods provided contact information of the most appropriate person in each company to be interviewed. PortugalFoods sent an initial email to the selected companies to present the research project and to request their collaboration in the project. Some associates immediately agreed to participate in the research and interviews were scheduled. In other cases a second email was sent to acknowledge receipt of the first email and to give some more information about the project. Lastly some contacts were established by telephone to schedule interviews.

The interviews took place during the months of June and July of 2014. The majority interviews were developed face to face with company founders, directors and export managers in the companies' headquarters and some were performed through Skype due to the geographic distance.

The interviews took between 50 minutes and 2h30 and were conducted as follows and according to the procedures suggested by Sousa & Baptista (2011, p. 84):

1. Thank willingness to collaborate in research;
2. Explain the scope and purpose of the investigation;
3. Explain how the interview will be organized;

4. Ensure the confidentiality of information shared in the interview, explaining that to process the data of the interview for each company a letter will be assigned;
5. The interview followed the order of the interview guidelines, but at first the questions were exposed like open questions, to understand the reasons / causes more immediate, and then were classified according to the Likert scale;
6. In the end of the interview, the interviewee was asked if there was anything else to add besides the topics discussed before;
7. Finally, the interviewer made an overall summary of the route of internationalization and global influence of PortugalFoods to make sure that the information was correct and there was nothing else left to add.

2.1.5. Sample

Based on the mentioned criteria of selection, the initial sample had 19 firms associated to PortugalFoods that were divided in 4 groups as shown in the table below.

Table 3: Initial sample divided by groups

Groups	Number of selected companies
I - Taking the first steps in exports	4
II - Developing exports activity	3
III - Consolidated exports	7
IV - Exporting companies with FDI	5
Total	19

Source: Own elaboration.

However, 5 of the 19 selected companies did not reply to the request. Under the scope of this dissertation, from 62 PortugalFoods associated companies, 14 interviews were conducted successfully with the company founders, directors and export managers, corresponding to a sample of 18% of the associated firms (14 out of 78). The table below shows the distribution by groups of the companies interviewed.

Table 4: Companies interviewed divided by groups

Groups	Number of interviewed companies
I - Taking the first steps in exports	2
II - Developing exports activity	3
III - Consolidated exports	5
IV - Exporting companies with FDI	4
Total	14

Source: Own elaboration.

In the next section a description of each case study will be made, followed by an analysis between groups and a general analysis.

2.2. Empirical results and analysis

This subchapter addresses the internationalization process and the influence of PortugalFoods on the selected firms. The first section describes the selected case studies, highlighting the main aspects that characterize and distinguish each internationalization process and the interaction with PortugalFoods. Then, an individual analysis of the 4 selected groups will be undertaken, characterizing each one, followed by a comparison between groups to establish patterns of internationalization and interaction with the cluster and its members. The subchapter will end with an overall analysis of the selected firms highlighting the main aspects that characterize the whole group.

2.2.1. Individual analysis – Description of the selected cases studies

In this section, based only on information that was shared during the interviews, the case studies will be presented. The main aspects highlighted during the interviews will be described in each case study, aiming to understand: why and how each internationalization process take place; how has the interaction of the company with PortugalFoods and with other associates been.

Due to issues of confidentiality agreed with companies' representatives, not all information will be disclosed. To each company was assigned a fictitious name, represented by a character, omitting the real name. Given that the cluster represents the agrofood sector and that all interviewed companies belong to this cluster and sector, the products produced by each company will not be mentioned. Moreover, the markets where companies have operations will not be revealed in detail. All these issues of confidentiality were assured during interviews.

1. Company A

Company A is one of the youngest companies in PortugalFoods. Founded in 2013, it is a successful micro company that already has its products in the major Portuguese retail chains and, in the same year, started to export to 3 markets (2 in Europe and 1 in Africa). In 2013 exports represented 15% of the sales volume.

The founders did not have any experience in the sector or contacts in the industry. In order to analyze the viability and develop a business plan, they contacted economists, marketers and people from the health sector. Additionally, a close cooperation was developed with 2 Portuguese universities: one to help with the marketing and market research plan and the other to work on the product's R&D. During the market research, one potential market in Africa was identified, as well as 3 distribution partners and in Europe 2 markets were identified where contacts were established with distributors and partners.

The company defined the following internationalization strategy: first, identified the main target markets; second, developed a marketing and communication plan for each one; finally, depending on the market, to export with or without intermediaries. Another strategy is to participate in international fairs, as it helps to identify potential clients and to test the products to understand what the required adaptations are. So far, the company participated in 3 fairs with its own brand and 1 with PortugalFoods.

In this first year the firm faced some barriers to internationalize: lack of information about international markets; lack of control of distribution channels and the large

quantities of product required by distribution chains; legal and bureaucratic aspects like trade barriers.

Still in the year 2013, the company joined PortugalFoods aiming to have access to knowledge and to a network. PortugalFoods has a team of specialized human resources that helped the firm overcome its main internationalization obstacles, providing information about foreign markets, sharing relevant contacts, organizing international fairs and dealing with the bureaucracy to access government funds to finance fairs. Company A is an active member of PortugalFoods having already participated with them in 1 trade fair and 1 business mission. Cooperation with other members to share information and experiences in an informal way is important for the company. According to Company A, PortugalFoods is an essential partner that has provided a great support in starting the business and enter in foreign markets, and moreover makes easier the projection of the brand.

2. Company B

In 2011 company B was found with the purpose of promoting Portuguese products abroad, thereby helping to strengthen the image of Portugal. The defined target export markets were the PALOP (Portuguese-Speaking African Countries) and the markets where Portuguese immigrants are (“Mercado da Saudade”). The desire to create the company arose on the one hand because of the founder’s foreign nationality and also because of the experience in working with exports although in a different industry.

The firm was born totally focused on exports to foreign markets and only works with the national market in the Christmas period to flow some production. Currently the firm is working with 3 European countries. The experience of the founder in exporting to some foreign markets, though not in this industry, influenced the choice of the first target markets. On the other hand, a priority was to lie alongside important competitors by positioning Portuguese products next to products from other countries. The export model depends on the market: may be exports through distributors or direct export, e.g. through internet channels.

The funding sources mostly used by this micro company were equity and bank financing. According to the founder, belonging to PortugalFoods was indifferent to gain access to bank financing. About financial resources the founder adds that the governmental system of incentives is very slow and did not get any, what was a major difficulty. When asked about other obstacles to internationalization, the founder noted the following: strong competition in target markets; control of distribution channels and short shelf life of its products. Moreover the founder considers that Portugal lacks an uniform and solid identity, which was somehow a difficulty. Still, the founder highlighted the notorious effort made by PortugalFoods in representing the country abroad.

Due to the necessity to bring the Portuguese companies to cooperate and build a solid image of Portugal, after 2 years of the company's foundation they became a member of PortugalFoods. Becoming a cluster member the company was expecting: to get support to company grow up in order to meet the demand; to have access to information and contacts of other markets as well as participate in fairs.

An important strategy of the firm's internationalization involves participation in fairs: if the fair is in Europe the company goes alone or with PortugalFoods since it fits the business plan; if it is outside the Europe participates only with PortugalFoods. In addition to fairs, company B had a great interaction with PortugalFoods participating in the organized workshops. Moreover the founder appreciates the cooperation between firms and cooperates with a competitor, also a PortugalFoods member. The shipping of products through shared distributors is another reason mentioned to cooperate with other firms.

So far the company worked more with PortugalFoods in the internationalization area than in R&D. The cluster has been a key partner in supporting and providing stimulus to internationalization through: organization of international fairs, customer identification, identification of trends and positioning the products in each market, access to strategic partners and international consolidation of the company's image.

3. Company C

Founded 23 years ago, company C is an SME with a family tradition in producing old culinary recipes. Most of its history was dedicated to the domestic market, with products under its own brand and distributors' brand. However, 2 years ago the company started to export under its own brand with high intensity.

The first export was 10 years ago to the USA, but the 'serious' beginning of the internationalization process happened in 2012 with a participation in an international fair. The process was motivated by an increase of production capacity due to a construction of a new facility and also by the crisis in Portugal. Developed through importers and distributors, the exports in 2013 represented 9% of company sales volume and were held to 7 markets: 2 in Europe and the other in Asia, Africa and USA. The size and potential of the market influenced the choice of target markets and the cluster had also some influence due to company participation in various initiatives as described below.

As a result of applying for a financial incentive to support internationalization, the company had defined the following strategy: prospection of markets to assess the potential of the products (conducted with help of a Portuguese entity and internal resources); participation in fairs and in business missions to prospect a local market in Asia; presentation of products to importers (action organized by PortugalFoods). It is being also considered the hypothesis of having a local representative in each market, which would be a partnership with other members of PortugalFoods, aiming to split costs. The internationalization plan is financed mainly through equity and partly through incentives, in which case the PortugalFoods did not have any influence.

Although there is also lack of knowledge about foreign markets, the main obstacles highlighted were: language differences in Asia; high shipping cost; difficulty to control the distribution channels, since the company does not know exactly where the products are placed; very specific demands orders which require product adaptations and, since the product is totally new in international markets, is necessary to introduce consumption habits. Customers and importers have an important role to overcome legal and bureaucratic obstacles by sharing periodically updated information.

In 2011, one year before the beginning of internationalization, the company joined PortugalFoods by indication of a founder member of the cluster. The enthusiasm for a project of dissemination of Portuguese products proposed by PortugalFoods and the opportunity for joint R&D led the association. In order to share knowledge and experiences, the company cooperates with other associated firms, one being direct competitor.

There has been a strong interaction between company C and PortugalFoods. In the internationalization process, the main influence came from joint participation in fairs, business missions and successful presentation of products to importers or distributors.

According to company C, "PortugalFoods has a strategy that has been adapted. It has a team of excellent professionals and has an important role in the dissemination of Portuguese products".

4. Company D:

Though not having experience in the sector, the founder of company D decided, 11 years ago, to produce the raw material that used to be imported by Portuguese producers. The three mandatory conditions to create the company were: internationalization through exports, innovation and adaptation.

After 2 years from the foundation, the company started to export to industrial customers identified by the company and later began to export through distributors, which in turn helped identify new customers. In 2013 the company exported to 7 markets (3 in Europe, 3 in Africa and 1 in Asia) and exports represented 45% of the sales volume, which confirms that the company is export oriented. The cluster did not have any influence in the choice of the markets but territorial proximity and market potential were identified as the decisive factors. The major obstacles faced in the beginning were lack of information and contacts on foreign markets, since the founder did not have experienced in the markets, and strong competition in the target market.

Mainly to develop joint R&D and also in order to have some support in internationalization, after 3 years of starting to export, the company became a

PortugalFoods member. Despite having its own team dedicated to R&D, the company also has partnerships with several Portuguese universities and has key partners within PortugalFoods. Concerning internationalization, annually the firm participates in 1 or 2 fairs organized by the cluster, which is the activity that has more influence on internationalization. The firm has also participated in inverse missions and seminars to share experiences. Access to a network and sharing information in order to identify new customers are the reasons mentioned to cooperate with other members. Although it was not a goal when the company joined the cluster, access to financial funds under the influence of PortugalFoods exceeded the expectations.

As a final comment, the founder highlighted that, in what concerns internationalization, despite fairs, did not have huge interaction with PortugalFoods but considered the cluster essential to represent the industry.

5. Company E

Company E is a subsidiary of a multinational (MNE) and is present in Portugal for 14 years. Currently company E is a big size company with 600 employees and in 2013 the turnover was 118 million euros. The company represents the international brands of the group and has its national brands that started to export in 2009.

The company's priority was always the domestic market. Even if it had started to export sporadically, due to a crisis of raw materials, the firm suspended exports to ensure the supply in the domestic market. In 2009 the firm started to export regularly retaking contacts it had from the first export experience. The internationalization process restarted in order to access markets with growth potential, reduce dependence on the domestic market and also to follow competitors. In 2013 exports represented 29% of the sales volume and exported to 15 countries, being the main markets: PALOP, “Mercado da Saudade”, Angola and France. Despite having as a priority the domestic market, at the moment the international strategy is the consolidation of markets in which they are already established and not to conquer more markets.

The distribution model is adapted to each market: in large markets is through supermarket chains and direct exports to big clients; in markets with smaller clients, the main distributors are identified; can be also through retailers and traders. Furthermore, company E is an exclusive supplier of a foreign firm, producing the entire product that is sold by the client in that foreign market under the client's brand name.

The main obstacles to internationalization were: lack of international contacts even if the firm had contacts from the first occasional exports; cultural and linguistic differences; strong competition in the target markets and control of distribution channels.

The company joined PortugalFoods in 2013, three years after starting the process of internationalization, but the interaction between them has been reduced so far. The main motivation to join PortugalFoods was to participate in fairs and get support when needed. Despite not having yet the opportunity to participate in any initiative, PortugalFoods already helped the company by sharing information on foreign markets and provided a contact of an important client.

In what concerns partnerships, the company has logistic synergies by sharing containers with partners from PortugalFoods. The R&D activity is mostly ensured by their own R&D department or in partnership with the MNE, so there is no cooperation with other companies from the cluster.

The excellent work of PortugalFoods is recognized by the company but it had so far no opportunity to take advantage of its potential. However, there is a strong interest in interacting more with PortugalFoods in the future.

6. Company F:

Founded 19 years ago, company F is an exporting SME and a family business. Started exporting 2 years after foundation and in 2013 exports represented 20% of the sales volume and was selling for 30 countries (10 of which in the EU). In some markets the firm has local representatives and distribution partners which are present in more than one country. In 17 years the company built a consistent presence in foreign markets.

The high concentration of players and low margins were limitations of the internal market that led the company to internationalize. Furthermore for company F was easier to enter in foreign markets than in the national markets, leading to follow customers located in “Mercado da Saudade” and PALOP and entering first these markets with growth potential. Other influences came from the contacts provided by the existing network in the region, by partners or by contacts developed in fairs. According to the company’s representative market size was not decisive in the choice of markets because “if there is a good partner is easier to work with smaller markets”. The biggest barriers faced were: linguistic and cultural differences in Asia; insufficiency of people with international experience and strong competition.

The company joined the cluster in 2010 but the internationalization process had already started 13 years before. Although exports were well established, by joining PortugalFoods the company aimed to: sharing synergies, access information on international markets (e.g. market trends) and access to a network. Though it was not the main goal, PortugalFoods exceeded expectations providing training. The internationalization process is partially financed through equity and mostly by incentives but according to the representative of the company, PortugalFoods did not to have much influence in attracting funds.

The firm participated in inverse missions and fairs. As the markets where PortugalFoods organizes fairs did not always match target markets of the company, to some fairs the firm goes under its own brand. Moreover, in markets where the company already has local partnerships or has a project underway, the company also goes under its own brand.

In terms of cooperation with other partners, suppliers stand out. R&D is developed only by the company based on market inputs and with technical information shared by PortugalFoods.

Despite considering that PortugalFoods encouraged internationalization and contributed to the consolidation of its international image, the firm’s representative believes that "many companies develop internationalization together with PortugalFoods, which is a strategy, but we have a mixed model in which we play alone or with PortugalFoods".

7. Company G

Company G is a family business with 29 years. After 3 years of foundation and establishment in domestic market, the company started to export to markets where the Portuguese communities were. In 2013 this SME exported 25% of its sales volume to 23 markets, of which 5 are in Europe.

The company started exporting to follow customers and have access to new markets with growth potential. In order to identify internationally well-known companies to make direct exports, the company undertook market research. Moreover, the company has been building gradually its distribution chain in target markets, trying to ensure one partner by country. Opportunistic behavior or unfair partners, difficulty in controlling distribution channels, excessive bureaucracy and strong price competition in the target market were the main obstacles identified. According to the company representative, the network was important to help overcome obstacles.

Currently the company produces for its own brand but also for two foreign brands. When asked about the hypothesis of opening a foreign subsidiary, the company manager did not exclude this option but considers more the hypothesis of an industrial than a sales subsidiary.

In 2011 company G became a member of PortugalFoods with the aim of accessing a network and information about international markets (customers and distribution chains). The most valued actions developed in partnership with the cluster were R&D activities and fairs. R&D is developed by its own team and in partnership with PortugalFoods. The participation in fairs contributed to consolidate the international image of the firm. Although the firm has participated in an inverse mission promoted by the cluster that was not successful, the company appreciated this initiative and would like to participate again. Despite having identified several partners (firms with complementary activities, in R&D and suppliers), the cooperation between associated companies is not very regular.

According to the administrator, PortugalFoods had no direct influence because the company had long ago defined the strategy and initiated the process of internationalization. Access to information and strategic partners and international

image consolidation were the most relevant features. The influence of the cluster is higher in R&D. Finally the company administrator considers PortugalFoods an important body to represent the industry and to capture incentives, making the Government and public opinion aware of the industry needs.

8. Company H

Company H is a family business with 71 years, very well established in the domestic and foreign markets, with two own brands and a range of varied products. Recently the company built a new production facility, with advanced technology, increasing the production capacity - allowing them to meet the demand in national and international markets. The company exports for 22 years, but to open a subsidiary abroad is not a plan till they do not to take full advantage of the new unit. In 2013 exported to 50 markets (13 in Europe) and exports represented 46% of the sales volume.

With the aim of finding more opportunities to grow, the company started to export. An existing contact of personal or business partner had great relevance in defining the target markets. According to the firm's representative, foreign markets are a source of inspiration to evolve. Although acting primarily with the 2 own brands, the company also produces for large international distribution chains and for B2B customers, which is seen as a major source of joint learning. It was during the fairs that some of these customers were identified. Fairs are an internationalization strategy that aims to: meet potential markets; find new clients and strengthen customer relationships.

The strong competition in target markets and excessive bureaucracy were the two main obstacles, but the network helped to overcome them. Recently the firm has a team dedicated to internationalization and two small international offices with only one staff member each.

In 2009, after 17 years of starting internationalization, the company became a member of PortugalFoods aiming to: develop its network; get training; access to specialized human resources to give support to the existing team. The interaction with the cluster has been very good, having the cluster responded in full to the expectations. Regarding

cooperation with other cluster members, the representative identified a competitor and companies that develop complementary activities. However, the company does not cooperate in R&D since it has an own team.

In order to finance the internationalization process the firm uses equity and public incentives. Although they never had difficulty in getting incentives, when possible they take advantage of the incentives coming through PortugalFoods projects.

According to the firm's representative when the company joined PortugalFoods the internationalization process was already advanced and defined. PortugalFoods supports and enhances the process but has no decisive influence; provides access to strategic partners; helps to consolidate the firm's image through fairs; helps to reduce the costs of trade fairs and inverse missions; provides information on trends and publishes market research. The firm knows that if they need support, it can be found in PortugalFoods and have already recommended PortugalFoods to other companies.

9. Company I

Company I defines itself as a 100% exporter. It was founded 76 years ago as a result of a merger of an existing foreign firm in Portugal with a Portuguese company. Currently the own brands of the company are established in national and international markets. Company I is a SME whose turnover in 2013 was 7 million euros and 50% of the sales volume was in exports to 8 markets (3 in Europe).

A few years ago their product was not well reputed in Portugal and had a very low consumption. Given that there was an excess of raw material in Portugal and the domestic market was very limited, the product had to be exported. According to its representative "this is a very big industry for the domestic market and therefore is an export industry by nature". Over time the perception of the product has changed and domestic demand increased.

The firm exports to 8 markets. These destinations were markets explored by the 2 original companies that merger and also the "Mercado da Saudade". The construction of a new facility has increased production capacity and coincided with the emergence of a

huge Portuguese client, leading to a decrease in exports. The firm produces for its own brands and to national and international distributor's brands. The international distribution model is divided between agents, storekeepers and importers.

Linguistic and cultural differences, together with bureaucracy, harm the internationalization process by implying a strict adaptation of the packages and labels. The existing network, e.g. distributors and local partners, helped to overcome barriers providing information about changes in the markets. Recently the investment in innovation has increased, as the gourmet market grew and it requires an adaptation of the products.

There were difficulties in accessing bank financing but PortugalFoods had a very positive influence in terms of credibility, making it easier to get it. The financial resources to support internationalization are equity and public incentives of which 50% comes from PortugalFoods projects.

In the future, the representative of the firm ponders opening a manufacturing subsidiary in another country where there is also raw material, with the purpose of exporting to Portugal the raw material and supply the local market if there is not a similar firm.

Company I became a cluster' member in 2012 and PortugalFoods completely exceeded expectations with emphasis on the shared contacts, training, access to information and financial resources and, above all, the excellent organization of fairs. The firm was looking for "someone with negotiation power to organize the fair with guarantee of success". The firm has participated in many fairs but always goes in partnership with PortugalFoods or other national entities. Fairs are considered a strategy to find new clients and are strategic for meeting clients, avoiding additional traveling which allows saving resources. During a fair organized by PortugalFoods, the company met another firm that became its supplier and that provided the contact of a new customer. PortugalFoods gives suggestions of other member firms with whom to cooperate. Among the existing firms, they cooperate with a rival of whom they are suppliers. Apart from the fairs, the firm has participated in inverse missions and R&D activities with entities belonging to the scientific system of the cluster.

From the work developed by PortugalFoods, the founder was keen to highlight: the excellent and professional organization of fairs; their negotiating power and their role in attracting funds. The founder recommends PortugalFoods to other firms and already led two companies to associate themselves with PortugalFoods.

10. Company J:

Company J was founded 161 years ago and was always an exporting company. It works in the same sector of company I and, for the same reasons, it is a 100% exporting company. In 2013 its own brands were spread by 45 countries, from which 7 are in Europe. In 2013 exports represented 60% of the sales volume.

Their products are spread all over the world and the cultural proximity, for instance in "Mercado da Saudade", had influence on the choice of markets. The firm produces for its own brands and also for distributors' brands. The opportunistic or unfair behavior of partners, strong competition in the destination market, the difficulty of controlling distribution channels and legal and bureaucratic aspects related to labels and packaging were highlighted barriers to internationalization.

If one day there will be a shortage of raw materials, the company considers the possibility of opening an industrial subsidiary abroad.

The firm is a member of PortugalFoods since its foundation (2008). It joined the cluster with the aim of contributing to strengthen Portugal's international image. Moreover, the firm was looking for support to organize fairs and expecting to exchange information about international markets. The company uses equity and incentives to finance the internationalization process. In this area, PortugalFoods clearly exceeded expectations, helping to raise the necessary funds.

Although R&D is developed by its own team and in partnership with other entities external to PortugalFoods, the company will begin a project proposed by the cluster. R&D was another objective in becoming a member. Despite this new R&D project, the representative of the company did not identify any other partner inside PortugalFoods membership.

Despite having participated in trade fairs and inverse missions, the firm's representative considers that "PortugalFoods had no decisive influence because the process of internationalization was already established". Yet adds that PortugalFoods "eventually assisted in the process in terms of funding, access information, organization of fairs and in innovation are taking the first steps together".

11. Company K

Company K is a SME with 32 years and a curious path of internationalization: began to establish in the domestic market, opening a production unit; in 2004 set up the first subsidiary abroad and just then started to export. Internationalized for 10 years, operates in 4 markets (3 in Europe) and in 2013 exports were 7% of the sales volume.

The internationalization process was motivated by domestic market conditions, which was starting to face a crisis and had an unfavorable tax system, leading to an increased need to access markets with growth potential. The network was determinant to start internationalizing, as the firm has received orders from abroad to provide catering services. The firm considered that a good business opportunity and created a subsidiary in a foreign market, where it produced the products and provided them to the customer. For this, the company had to recruit qualified workers and the raw material was imported from the manufacturing unit in Portugal or, when necessary, used local raw materials. This business model started with a client in Europe but then emerged another client in Africa. However, currently the activity in these subsidiaries is suspended for lack of customers' orders. To set up the subsidiary, the firm faced some difficulties: find local suppliers; logistical difficulties and access to financial resources.

The network was also important to start exporting. A Portuguese customer went to Africa and began to import the product. Although in some countries the competition was high, according to the company's representative, PortugalFoods was crucial, giving indications whether or not should adapt products to local markets. Another obstacle was to control the distribution channels and the inflexibility of large distributors that required high product quantities. The third mentioned obstacle was the "very bad image of Portugal in this sector in terms of hygiene which is not true".

With the aim of getting help to discover the potential of products in each market, in 2012 the firm became a member of PortugalFoods. One of the markets where the company is present, was motivated by the cluster that put them in contact with a customer. According to the firm's administrator the support provided by the cluster exceeded expectations: "if we had a problem and PortugalFoods doesn't know how to help, they always knew someone who can help us". However, regarding the help to get bank financing, the feedback is not so positive considering that the cluster does not give any support. The interviewee argues that the firm does not develop joint R&D with PortugalFoods due to geographical distance.

They never participated in fairs with Portugal Foods. With the goal of raising new clients, the firm participates alone or with other Portuguese entities, and does not always attend to the same fairs. From the activities organized by PortugalFoods, the firm participated in inverse missions and highlighted the "HUB": in-person meetings with direct competitors with the aim of figure out how they can cooperate. Although company K does not cooperate with any competitor who is a member of PortugalFoods, they already cooperate with one that is external to the cluster.

The influence of PortugalFoods in the internationalization process is positive: encourages internationalization; helps to choose target markets; provides contacts of potential partners; helps in the international consolidation of the company's image. However, according to the representative of the company "the interaction with PortugalFoods could be higher if the physical distance was smaller".

12. Company L

Company L is one of the largest members of Portugal Foods. In 2013 the firm had 900 employees and a turnover of 200 million euros. Founded 53 years ago, the company has a well-known brand in Portugal. First settled in the domestic market and then internationalized through exports, JV and by acquisition.

In the beginning, the firm was focused on the domestic market where it opened and expanded the 2 production units and then, started to work with distribution channels. In

1990 the process of internationalization started with exports carried out via international distribution channels. The following steps in internationalization were: acquisition of a foreign company in Europe and a 50-50 JV with the only existing firm in this sector in Africa. In 2013 the exports represented 30% of total sales and to more than 30 markets. The two subsidiaries abroad represented 25% of the turnover.

The strategy for exports was: identification of the target markets and continuous prospection; pre-selection of identified markets; definition of an adapted strategy to each market. The firm has a team that makes market prospection through fairs and trips in which local partners (distribution and brand representatives) are identified to accelerate the results. The contact may be established directly with the client or in more complex markets through partners and, if necessary, the firm may have more than one partner in each market. Local partners provide information on trends and other relevant information.

The internationalization process was initiated because they need to be in markets with growth potential in which the product is more valued and pay more for the product, seek for natural resources and technology assets.

Linguistic and cultural proximity were the main determinants to define export target markets. To the establishment of units abroad, territorial proximity was key, as well as the size of the market and the existing contact or a partner. PortugalFoods had influence in the choice of export target markets but did not have in the set up of foreign units. The main barriers to internationalization were: strong competition in target markets; to control the channels; legal aspects and the inexistence of public incentives since it is considered a large company.

Joint R&D was the main objective that led the firm to become a member of PortugalFoods in 2011. The company had already participated in various events organized by the cluster; a conference on innovation and joint R&D were the activities highlighted by the interviewee.

Diverse partners within the cluster were identified: firms with complementary and even competing activities; customers; suppliers and universities. The reasons to cooperate

that the administrator pointed out were: sharing costs through commercial and logistic synergies and economies of scale that give greater bargaining power.

According to the interviewee: "PortugalFoods had not a decisive influence because we had already started the process of internationalization. For instance the company exports to markets with whom PortugalFoods still not working and thus we act more in the B2B market. PortugalFoods helps with markets in which we are not present. However we are not structured to take advantage of internationalization".

13. Company M:

Company M was founded 95 years ago and is a large and well-known company in Portugal, with a turnover of 200 million euros and 650 employees in 2013. After consolidating the domestic market, 20 years ago the firm started to export and made a minority JV. Currently it is present in 38 markets (5 in Europe) and exports were 12% of the sales volume in 2013.

The firm started to internationalize through sporadic exports due to requests from foreign customers. Later, exports became more regular and made through distributors. The existence of a partner's contact, territorial and cultural proximity were all factors that influenced the choice of export markets. The same factors were noted for the choice of the market where they made the JV. The partial (25%) acquisition of a factory located in Europe aimed to supply nearby markets.

During the internationalization process, the main obstacles were: strong competition in the target market; lack of human resources with international experience and knowledge gaps on external markets. The informal exchange of information with the network helped overcome these obstacles. The administrator gave a great importance to personal relations and direct contact with partners or customers. If the company visits a partner, it has a very positive impact since this effort is highly valued and in the future it can make a difference in a business.

In 2010 the firm became a member of PortugalFoods with the main objective of joint R&D. Since 2012 the firm has an autonomous department but the cluster provides

information about innovation trends. No partner was identified among the members of PortugalFoods.

Participation in fairs is one internationalization strategy: attend several fairs in Europe (attracting people from all over the world) but outside Europe a pre-selection is needed. The firm participated under its own brand or jointly with PortugalFoods or other national entities. This strategy aims to: make the first approach to the market; get feedback from potential customers to assess whether the product portfolio is appropriate to the market and identify opportunities for new product launches. The administrator highlighted that if several members from PortugalFoods participate together, a larger stand is required and the negotiating power of the cluster is greater, getting a better location in the fair.

According to the administrator “the lack of local informants with specific market information is partially overcome by PortugalFoods who has a great knowledge of the market / sector and has an innovative approach”. PortugalFoods helped in the process of internationalization through sharing some contacts of strategic partners and the participation in fairs helped to consolidate the international image of the company.

14. Company N:

Company N was founded 27 years ago and has a developed internationalization process with various entry modes: exports, acquisitions and JV. It is a large firm that in 2013 had a turnover of 105 million euros and exported to 20 markets (6 in Europe) and had 4 units abroad.

After 3 years of foundation and establishment in domestic market, the firm started to internationalize expecting to find markets with potential and where margins were high. First, the firm started to export to Europe and then set up various subsidiaries and JV. However, the firm was not always successful, forcing successive changes in strategy.

Over the 24 years of internationalization the firm set up 3 JV: the first was not successful due to inexperience; the second was initially majority but due to cultural problems was also not successful; the last JV was with a competitor and remains active.

According to the company representative the main reasons for the failure of the JV were: cultural and legal differences; loss of power when the JV went from majority to minority or 50-50. Regarding the various foreign subsidiaries: the first was a greenfield investment but due to legal issues was closed; the second subsidiary is still active and resulted from a greenfield investment only with the purchase of the existing infrastructure, and aimed to serve the local market and export from the subsidiary; the third subsidiary is a greenfield investment in the US.

In the beginning of the process, after gaining experience in other markets, the company entered in a large European market through direct exports, having first hired for that local human resources and make a market prospection conducted with internal resources to identify the major brands. Later, also in this market, the company acquired a small but historic player that helped the company to enter in the market.

In addition to the previously mentioned obstacles, the representative of the firm also noted: opportunistic or disloyal behavior of the partners; difficulties in the development of organizational structure due to cultural problems; the lack of good information about foreign markets as the information received does not always correspond to the truth.

Aiming to contribute to the implementation of a national strategy of cooperation, the firm became a member of PortugalFoods in 2008. There is a strategy to attend international fairs: in the old markets the company goes under its own brand; in new markets the firm goes in partnership with PortugalFoods. The financing of internationalization is mostly via bank financing but the interviewee believes that the cluster did not have influence to overcome this obstacle.

Despite having helped to identify new suppliers and to organize fairs, PortugalFoods did not have a decisive role in internationalization because when the firm was founded the internationalization process was already well established. The firm's representative considers that in R&D the influence was more decisive, promoting co-promotion with universities and other firms. Moreover, the representative added that "the model of PortugalFoods is more focused on companies that are starting the business or start-ups". As a more experienced firm, they had already contributed to the internationalization of other firms helping to identify distribution channels.

2.2.2. Group analysis – Characterization of each group profile

As mentioned in the methodology subchapter, the selected companies were divided into 4 groups according to the internationalization criteria (Appendix B - Table A.1). This section aims to characterize each group, highlighting the aspects that distinguish them in terms of internationalization and interaction with PortugalFoods.

- Group I - Taking the first steps in exports

The group I is characterized by companies that engaged in international markets recently. In this group there are firms that only export and are taking the first steps in internationalization. These companies are present in a very limited number of markets and the percentage of exports in the sales volume is very low.

From the selected firms, A and B are those that fit this internationalization profile. Both are micro companies that started to internationalize very recently, 1 or 3 years ago, and are taking the first steps through exports (Appendix B - Table A.1).

These firms were founded with the aim of internationalizing very early to markets with grown potential (Appendix B – Figure A.1). In fact, they started to export since their foundation, which corresponds to an accelerated internationalization process (as described in chapter 1), and at the same time became members of PortugalFoods. Cultural proximity played a major goal in the choice of markets (Appendix B – Figure A.2), since they were looking for markets where the Portuguese communities are. Currently both firms are present in only 3 markets.

So far, the main barriers faced are related to distribution channels, strong competition abroad and Portugal's reputation (Appendix B – Figure A.6). When they faced these obstacles, they were already members of the cluster and got the needed support to overcome them.

The representatives of group I firms did not consider knowledge on foreign markets a real obstacle, since searching on the internet or through their network they could overcome quite easily this lack of information. Entering in PortugalFoods, they were

expecting to get more information on international markets (Appendix B – Figure A.11). The required information was provided directly or through workshops organized by the cluster, considered by the group as the most reliable source of information, since the cluster has a strong knowledge in the industry.

Although the access to information and network had not been considered obstacles, these were the reasons that motivated the integration in the cluster (Appendix B – Figure A.11), since they were starting and had not experience or even contacts in this industry. The cluster was able to provide the needed support.

At this early stage joint R&D was not a goal, but the firms envisaged the possibility of having joint projects in the future (Appendix B – Figure A.11 and A. 15).

So far, the firms have been more focused on starting the internationalization process. Both have participated in international fairs with the cluster (Appendix B – Figure A.15) or under their own brands. Despite taking the first steps in internationalization, they are not totally dependent on the cluster's activity. The main financial resources used to internationalize are equity and bank loans (Appendix B – Figure A.4). Access to public incentives was not a strong goal when firms joined PortugalFoods, though these incentives would be welcome anyway.

Despite the received support and encouragement to internationalize, the overall assessment firms made of the influence of PortugalFoods was, on average, lower than 3 (moderately important) (Appendix B – Figure A.16). This low influence can be explained by the recent beginning of internationalization (and foundation of companies), thus having not enough time yet to interact more with the cluster. However, group I is expects to interact more with the cluster in the future.

- Group II - Developing exports activity

This group represents the firms that have passed the initial stage in exports, when the effort to build the initial network and get general information on foreign markets is crucial, but have not consolidated them yet. It is a group that continues to make efforts

to develop exports and ensure their regularity. These firms already established contacts in various countries and export to a considerable number of markets.

Company C, D and E are the companies whose path fits this group: company C recently started exporting with high intensity and is already present in 7 markets; to company D the exports represent 45% of sales volume and is present in 7 markets but stills in the process of consolidating exports; company E is a subsidiary of an MNE but as Portuguese subsidiary only began to export five years ago to 15 markets and is making an effort to consolidate each market (Appendix B – Table A.1).

Despite exporting already, these firms have a profile of gradual and slower internationalization, focused first on the domestic market, except company D that can be considered as having an accelerated internationalization. The firms internationalized in order to reduce the dependence on the domestic market, seeking to have access to markets with growth potential (Appendix B – Figure A.1). Apart from the potential of the market, the other criterion was the choice markets due to cultural proximity (Appendix B – Figure A.2), as happened in group I but with less intensity. In the beginning, exports were directly to clients identified by the firms, but later, due to greater knowledge and network, most exports were developed through distributors.

Overall, the group expressed greater difficulties with competitiveness in target markets and with Portugal's reputation, but due to fairs this reputation was improved. Bureaucracy and control of distribution channels were other noted difficulties, albeit with less relevance than the first. Though information was not noted as an obstacle, PortugalFoods helped providing information on international markets (Appendix B – Figure A.7).

In group II, the main source of funding is equity but incentives are relevant (Appendix B – Figure A.4). Although access to incentives was not a difficulty, or goal, the influence of PortugalFoods to get it is not unanimous: according to company C and E the cluster did not have any influence; in the case of company D it exceeded expectations.

Due to natural company development and in order to be competitive, R&D gains relevance in this group. Considering the motivations that led companies to enter PortugalFoods, on average, the score assigned to internationalization and R&D is the same (Appendix B – Figure A.12). Even if the firms are not taking the first steps in exports, they continue to need foreign contacts and information, but at this stage (developing exports) the contacts become more relevant to ensure partnerships.

This is a group of companies that actively participates in initiatives, especially in fairs (Appendix B – Figure A.15), with the exception of Company E who has not yet participated in any activity provided by the cluster.

Firms in group II became associated to PortugalFoods when they were starting to internationalize. The influence of the cluster on their internationalization process is not very high (on average is approximately 2,5 – Appendix B – Figure A.16) but stands out in encouraging internationalization and contact with strategic partners (customers, distributors).

- Group III – Consolidated exports

Group III represents firms that have a long tradition in exports and are present in diverse markets all over the world. These firms have a well consolidated export activity: exports are already regular and have strengthened relationships with their customers and partners. The type of firms in this group are longstanding companies with a significant size, as several years are needed to reach this position of consolidated exports.

Companies F, G H, I and J are the selected companies whose internationalization pattern fits this group profile. These 5 companies are all SMEs with: 50 – 230 employees and a turnover of 7 – 31 million euros; present in 8 – 45 markets spread all over the world and exports represents between 20% and 60% of sales volume, confirming that they are export-oriented firms (Appendix B – Table A.1). From the 5 firms in this group, 3 started to internationalize since their foundation (F, I and J) and 2 companies (G and H) started later between 3 or 22 years after foundation (Appendix B –

Table A.1). Clearly company H is the one that had a more gradual internationalization process, after a long period focused on the domestic market.

Limitations of the internal market led firms to seek markets with growth potential. Also, internationalization was motivated by the desire to follow the existing partners or customers (Appendix B – Figure A.1). Markets were strategically chosen, considering where the existing partners were and the firms sought as well to be present in markets where Portuguese communities were (Appendix B – Figure A.2)

The export model is through both direct exports and (mainly) through distributors since they are present in many markets. Local representatives and distribution partners gain visibility within the strategy of these firms. Despite the long processes and effort to develop a relationship, often the companies have difficulty in controlling the many distribution channels and deal with some cases of disloyal or opportunistic behavior of partners (Appendix B – Figure A.8). These firms produce to their own brands and for distributors' brands. The major barriers identified by group III were: dealing with bureaucratic issues; foreign reputation of Portugal; lack of specific information about foreign markets and intense competition (Appendix B – Figure A.8).

In order to get some support to overcome these barriers, firms joined PortugalFoods. They were looking for knowledge and received a huge support from the cluster, that provided information about foreign markets, e.g. market trends. Moreover, they were also looking for specialized human resources, to organize fairs and ask questions when necessary. Although they already had a global network, they were also expecting to get more contacts e.g. customers and distribution channels (Appendix B – Figure A.13).

Equity was the main source of funding and partly public incentives (Appendix B – Figure A.4). Access to incentives was a difficulty partially overcome with the help of the cluster (Appendix B – Figure A.8 and A.13). Most firms highlighted PortugalFoods role as facilitator in obtaining financial resources, either incentives or bank loans.

This group of firms has a great interaction with PortugalFoods, mainly during fairs and inverse missions (Appendix B – Figure A.15). Despite participating in fairs with the cluster, the firms also participate under their own brand, as they already did before the

cluster's foundation. Establishing partnerships to participate in fairs is seen as a strategy to reduce costs.

Another aspect that stands out in this group is that it is notorious that firms are focused on R&D. Although these large firms have their own R&D departments, they expressed interest in establishing partnerships (Appendix B – Table A.7 and A.9).

Despite the great interaction, PortugalFoods had no direct influence as the internationalization process of these firms is much older than the beginning of the cluster. The cluster provided very relevant support in the international consolidation of the companies' image and encouraging internationalization (Appendix B – Figure A.15). In this group the cluster had a moderately important role in providing access to strategic partners and financing.

- Group IV - Exporting companies with FDI

Group IV is characterized by firms that, beyond export activity, have FDI. In this group there are firms that developed acquisitions, JVs and 100% subsidiaries.

From the selected firms, these 4 companies (K, L, M and N) fit the internalization profile of exporting complemented by FDI. From these 4 companies, 3 are large firms (L, M and N) and the other (K) is a SME. Companies K, L and M have a similar internationalization profile since they first were focused for a long period in national markets, between 9 and 75 years, and only after that started to internationalize gradually, through various entry modes (Appendix B – Table A.1). Company N stands out as it initiated internationalization almost since its foundation and developed international activity very quickly, taking successive steps and adopting various entry modes, although it was not always successful.

Due to limitations of the domestic market, firms started to search abroad for markets with growth potential and where margins were higher (Appendix B – Figure A.1). In addition to exports, FDI was an entry mode adopted, in order to locate closer to customers and as a strategic positioning to serve markets. Moreover, natural resources-seeking and access to technology were other reasons that led to FDI.

The criteria to choose the markets for FDI and exports do not differ much (Appendix B – Figure A.2 and A.3). In both the size and potential of the market were the most important criteria, followed by business opportunity, existing relationships or contact of a partner. In the case of FDI, territorial proximity is relevant but not the most important factor.

The main barriers are legal aspects (Appendix B – Figure A.9) but other identified barriers depended on the entry mode. In the case of FDI to find suppliers, logistical and financial constraints stand out; for exports, the main problems were distribution channels and Portugal's reputation. PortugalFoods did not have much influence to overcome barriers as these firms began to internationalize many years before. However, currently the cluster provides crucial information, that firms sought when they joined the cluster (Appendix B – Figure A.14).

In what concerns exports, initially the strategy was implemented mainly via direct exports given that: companies were identified directly by customers; distribution channels were not so developed at the beginning of exports. Currently distributors are essential, as well as local partners. Local partners have an increased role as they also act as local informants about e.g. market trends.

The main financial resources for group IV firms are equity and some bank loans (Appendix B – Figure A.4). However, getting bank loans or public incentives were difficulties that interviewees considered that PortugalFoods did not help to overcome (Appendix B – Figure A.9).

The overall interaction with the cluster is not high in this group. The assigned score is, on average, approximately 2,5, indicating an influence that is between not very important and moderately important (Appendix B – Figure A.16). In the evaluation of the influence of PortugalFoods in their internationalization process, the international consolidation of the firm through fairs was emphasized. Despite having their own R&D teams, R&D was the main reason that led them to join the cluster (Appendix B – Figure A.14). The internationalization strategy was already far advanced when the cluster emerged. Regarding FDI, the cluster had no influence. Regarding exports, the cluster

provided some support in markets where firms were not yet present. The cluster also provided relevant information about the markets partners' contacts.

2.2.3. Group analysis – Comparisons between groups

The comparison between groups aims to address the following questions:

1. What are the main differences between each stage/path of internationalization?
2. Can the cluster react differently to each stage needs?

Even if some companies have been long time in the domestic market and then gradually internationalized, or even if others have internationalized since their foundation, the needs and difficulties change according to the internationalization stage and experience. Based on what was mentioned in the interviews, and presented in the previous section, a synthesis table (Table 5) was developed, highlighting the needs and difficulties that characterize each group and PortugalFoods' initiatives and resources used.

In order to continue to internationalize, group I needs more international information and to develop its network. They export directly to customers identified by them and work with some identified distributors. In group I, the firms' aim is to keep the exports regular and consolidate clients and markets. In order to evolve, companies need contacts, to develop partnerships with local representatives or distributors, and more information on target markets and other foreign markets.

Group III had already consolidated exports and has its own representatives. Still, more information about foreign markets is needed and support to find more partners.

Finally group IV, beyond exports, evolved to FDI and needs detailed and reliable information in foreign markets and access to financial resources.

As shown, to each different stage of internationalization (or group), correspond different needs and difficulties. Some of the firms, who were further internationalized, joined PortugalFoods mainly with the aim to develop joint R&D. Despite this, whether the main aim in joining PortugalFoods is R&D or getting support to internationalize, the interaction with the cluster changes between groups.

Table 5: Synthesis of each group needs, difficulties and PortugalFoods' initiatives and resources used

Group	Strategy	Looking for	Difficulties faced	PortugalFoods' initiatives and resources used
I Taking the first steps in exports	Direct and distribution channels	Information on foreign markets and contacts	Start to work and find appropriate distributions channels Intense competition Portugal's reputation	General information and trends Relevant contacts Seminars Fairs Customer identification Support to define positioning Business missions
II Developing exports activity	Direct (initially) Mainly distributors (currently)	Mainly contacts Information R&D	Intense competition Portugal's reputation Bureaucracy Control distribution channels	General information and trends Relevant contacts Seminars Fairs Business missions Presentation products to importers or distributors Joint R&D
III Consolidated exports	Local representatives and distribution partners	Specific information on foreign markets – trends Find partners Fairs Financial resources R&D	Bureaucracy Portugal's reputation Intensive competition	Information: trends and market research studies Contacts of strategic partners Fairs Training Inverse missions Joint R&D
IV Exporting companies with FDI	Local representatives and distribution partners	Specific information on foreign markets – trends Natural and technological resources Find partners R&D	Bureaucracy Legal aspects Financial resources	Specific information Contacts of strategic partners Fairs Identification of new suppliers Support to define positioning Support to identify new suppliers

Source: Own elaboration.

In the Table 5, the column "PortugalFoods' Initiatives and resources used" shows that PortugalFoods provides firms with several tools to assist the internationalization process. No significant differences among the various groups were found in terms of resources provided. PortugalFoods has a set of resources that it provides to members and then, in more specific issues gives a more specific support: partners' contacts, information on target markets or support to define positioning in foreign markets.

Group III followed by group IV has a greater involvement in cluster's initiatives, on average terms (Appendix B – Figure A.15). Group III stands out in participation of fairs and inverse missions. Regarding R&D, it is notorious that, as the internationalization process advances, joint R&D activity is increasing (Appendix B – Figure A.15).

A deeper analysis of R&D shows that: till now, group I develops R&D only with their own teams; other groups, despite having teams, develop R&D partnerships. Group III is the one that stands out because it is what registers more partnerships with PortugalFoods members and external entities (Appendix B – Table A.9)

Comparing groups in terms of funding sources, the first source for all groups is equity (Appendix B – Figure A.4). The second source varies: for groups I and IV it is bank loans; for groups II and III it is public incentives. The influence of PortugalFoods in getting financial resources is not unanimous between groups and inside groups. According to group I, the cluster has a positive influence in getting incentives (Appendix B – Figure A.11), e.g. to finance fairs. Group III also considered that PortugalFoods has a great influence in getting either incentives or bank loans (Appendix B – Figure A.13). Despite 2 companies from group II stating that there was not any influence of the cluster in getting public incentives, the other firm of the group highlighted their positive role (Appendix B – Figure A.12). Finally, according to group IV there was not any influence in getting financial resources. This information shared during the interviews is consistent with the assigned scores in the goal and benefits question and global influence of PortugalFoods (Appendix B – Figure A.16). Considering all scores assigned by all companies in the question of global influence of PortugalFoods in accessing financial resources, the average is approximately 2, meaning a low influence. According to Zyglidopoulos *et al.* (2006) the cluster's reputation can help to overcome financial constraints. Despite this low general score

and taking also in consideration what was shared during the interviews, although is not unanimous the influence in getting bank loans and not all benefited so far from incentives, PortugalFoods obtains important incentives to finance fairs.

Concerning goals and benefits with the integration in PortugalFoods, no significant differences exist: on average terms, the benefits equaled the goals although in both the assigned scores were not very high (Appendix B – Figure A.10). However Group III stands out with a higher average score in benefits (Appendix B – Figure A.11), which proves a great interaction with the cluster. Group I has, on average, the lower benefit which can be explained by the short time of membership of the cluster.

To analyse the barriers faced by each group, 2 analyses were developed (Appendix B – Table A.4): in analysis 1 is the average of all obstacles that are in the interview guidelines (Appendix A); analysis 2 is the average of the obstacles but excludes “difficulty in hiring human resources with the required qualifications in the destination country” and “difficulties in developing the organizational structure abroad” since they are just applicable to companies from group IV. Comparing analysis 1 with analysis 2, the average score becomes higher in the second, as these questions were classified with 0, leading to a decrease of the whole average.

In both analyses, the average score is not very high in barriers and neither in the cluster’s influence. Additionally, as the internationalization process develops (analyzing from group I to group IV) the obstacles increase since the process became more complex (Appendix B – Table A.4). However, there is not a linear relationship between stage of internationalization and PortugalFoods’ influence: the development of internationalization (or increase of the obstacles) does not lead to a greater influence of the cluster. Generally, although not having too large differences, the influence of the cluster is not sufficient to help overcome the barriers. It can happen given that firms from groups II, III and IV had already started their internationalization process when the cluster was founded, so it could not help to overcome barriers. In group I, the interaction with PortugalFoods until now is low, because they are new in the cluster. Anyway groups I and III stand out with higher average score in PortugalFoods influence, and group III is the one with stronger interaction with the cluster.

An overall analysis of the influence of PortugalFoods in the internationalization process was made by all the interviewees considering: encouraging to internationalize; choice of countries; access to strategic partners; access to financial resources; contributed to improved performance in terms of sales increase, profits, innovation; international consolidation of company image (Appendix B – Figure A.16). On average, in all these elements, the highest influence of PortugalFoods was in group III. As shown before, even if this group had started to internationalize much before the foundation of the cluster, since they are members, they have a great interaction in terms of participation in the cluster's initiatives (Appendix B – Figure A.15) or partnerships in R&D (Appendix B – Table A.9). Group I is the one that gave a lower score to PortugalFoods' influence, since they became members recently, so it is early to evaluate the cluster's influence (Appendix B – Figure A.16).

2.2.4. General analysis

In the previous section, the comparisons between groups highlighted the differences mainly in terms of goals and benefits in becoming a cluster member, barriers faced and support received by the cluster, cooperation and R&D. A general analysis will be developed in this section with the aim to have an overall perspective of the 14 PortugalFoods members and their interaction. The analysis will follow the interview guidelines, starting with internationalization process and then interaction with the cluster and its members. The main findings will be compared with previous studies developed and presented in the chapter of the literature review.

During the interviews there were several motives given to start the process of internationalization. Access to markets with growth potential in order to overcome the limitations of the domestic market was the most frequently mentioned reason (Appendix B – Figure A.1). Demand for resources and strategic assets were the least common noted reason, as it applies only to group IV.

The reasons to internationalize are related to the criteria for the choice of markets (Appendix B – Figure A.2). Business opportunities and market dimension or potential were the main reasons. In order to obtain better conditions than the offer by the national market, companies seek large markets where margins are higher. Cultural proximity

was the third most important criterion in the choice of markets. Companies seek to place products within Portuguese communities. The cluster did not have a great influence on the choice of markets given that many firms already had the strategy and target markets well defined (Appendix B – Figure A.16).

The criteria applied in the choice of markets, mainly linguistic and cultural criteria, is reflected in the oldest international markets, and in markets that have a greater sales volume. USA and France were the two main markets where companies made the first exports. Among the three oldest markets stand out: Angola and France; followed by Spain and England (Appendix B – Table A.2). In terms of sales volume markets which exhibit greater sales volume are: Angola, France and Spain (Appendix B – Table A.3). Angola stands out as the oldest and most representative at the same time in terms of sales volume market and followed by France and Spain. However, a direct relationship between the age of the market and sales volume cannot be established.

When asked if firms resorted to some external entity to set the internationalization strategy, only 3 of the 14 companies answered yes. These firms were helped by universities in order to define the whole strategy and communication plan, personal contacts to make the business plan and by a French firm to help to enter in this market. The majority of the firms have a well-defined, clear strategy of internationalization for instance in defining the main target markets and the strategy to attend fairs. At the beginning of the internationalization process, especially in smaller firm, most companies do not have a team allocated to internationalization. However, with the development of international operations, they end up having a team allocated to internationalization.

All 14 companies have one or more own brands that are present in foreign markets. However, with the exception of the group I, all companies produce for other brands. May be distributors' brands or even other companies' brands. It's a way to monetize existing production units and ensure sales volume.

Unanimously the most mentioned obstacles were (Appendix B – Figure A.5): bureaucracy and legal aspects; strong competition in the target market in terms of price and quality; reputation of Portugal and lack of knowledge with lower score. The

obstacles that PortugalFoods mainly helped to overcome were the lack of knowledge and reputation of Portugal. Regularly PortugalFoods provides general information about foreign markets or either trends to all members and, when required, provides specific information or advice, e.g. if the firm should adapt its products to foreign markets. The members highlighted the effectiveness of PortugalFoods in improving the country's image (Appendix B – Figure A.16), organizing fairs professionally or contact foreign players (distributors or customers) and showing the Portuguese products. However, the average of the scores assigned by the firms has shown that the overall influence of PortugalFoods is lower than the score attributed to the barriers (Appendix B – Figure A.5 and Table A.4). This lower score can be explained because when firms faced the majority of the barriers, PortugalFoods did not exist. PortugalFoods was only founded in the end of 2008 and by then the majority of the selected companies were already established in foreign markets.

From the 14 firms interviewed, 10 considered the existing network essential to help facing barriers. Usually the exchange of information within the network occurs in an informal way. The important role of external agents noted by Rocha *et al.* (2007) was confirmed by company's representatives that highlighted that they provide information about trends and help in dealing with legal aspects. To the other 4 firms, the network had no effect because they had no contacts in the industry that could help. This result is consistent with the Network Mode of Internationalization presented in chapter 1, according to which the network can have an important role to overcome the lack of information, through exchange of experiences and transfer of knowledge (Hadley & Wilson, 2003).

In order to find out which reasons led companies aspiring an international activity to integrate a cluster and, what are they expecting from the cluster, the firms had to assign a score to goals with integration in the cluster (Appendix B – Figure A.10). It was found that firms aim to have mainly access to international information and access to a network and then opportunity to cooperation develop joint R&D. The first two goals are consistent with the Uppsala Model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) and the Network Model of Internationalization (Johanson & Mattsson, 1988; Johanson & Vahlne, 2009). According to these models, in order to

internationalize it is necessary to have a channel of regular information and to have a good position in a strong network. PortugalFoods acts as a facilitator and a booster in the internationalization of its members since it provides the needed information and helps them to build or improve their network. In addition, PortugalFoods promotes cooperation among its members to exchange experiences and/or even to develop joint R&D (Appendix B – Table A.8)

Regarding the initiatives promoted by the cluster, these 14 member firms participated more in fairs and inverse missions (Appendix B – Figure A.15). Joint R&D activity is developed mainly by companies from the III and IV group.

The existing literature about clusters highlights the trust relationships between clustered firms and the partnerships established in order to cooperate (Iammarino & McCann, 2006; Porter, 1998; Saxenian, 1996). Aiming to analyze the cooperation between members of PortugalFoods, during the interview some questions were made. The partnerships developed were promoted mainly by corporate initiatives but PortugalFoods has a major role in stimulating cooperation (Appendix B – Table A.8). An analysis of the scores assigned to questions related to cooperation leads to conclude that cooperation between associated members is low. Within the 14 firms, only 20 partners were identified, and the majority were identified by groups III and IV (Appendix B – Table A.6). This conclusion contradicts the idea of Zyglidopoulos *et al.* (2006) that, as firms internationalize, they reduce their degree of local cooperation and interaction.

The 20 partners identified by firms were (Appendix B – Table A.6): 7 suppliers; 4 companies that develop complementary activities; 4 R&D institutions; 3 that develop the same activity and 2 clients. In the agrofood sector in Moderna, Bertolini & Giovannetti (2006) also noted firms that have mutual supply of products. The cooperation between companies that carry out complementary activities was also identified by Maskell (2001).

Even if cooperation between associated firms is not very high, 5 out of 14 companies recognized cooperation with competitors (Appendix B – Table A.6). This result is

consistent with Porter's idea that competition and cooperation can be promoted simultaneously within a cluster (Porter, 1998).

In spite of the partners also having international activity, according to the interviewees, they did not influence the process of internationalization. The main reasons identified to cooperate were (Appendix B – Table A.7): to exchange knowledge and experiences; sharing of costs and getting access to a network. It was found that the 14 sampled companies share information with other members of PortugalFoods, often informally, and 13 stated that it had a positive effect but one firm from group III was not sure about the effect. The results found are consistent with Iammarino & McCann (2006) according to which an inflow of knowledge is always positive but an outflow may have a negative influence, which reflects the fear of the company from group III.

To the overall influence of PortugalFoods in the internationalization process companies included attributed a medium score - 3 on a scale of 5 (Appendix B – Figure A.16). Nevertheless, firms highlighted the international consolidation of the firm's image, encouraging to internationalize and provided access to strategic partners as the main factors in which had influence. Regarding the contribution of the cluster in improving performance in terms of sales, profits and innovation was the average rating of 2 on a scale of 5. It was mentioned in some interviews that PortugalFoods promoted some initiatives, for instance inverse missions, that did not have the expected result not because of the cluster's fault but merely because it was not possible to do business. Even if PortugalFoods promotes various initiatives, it does not mean that these will always be reflected in terms of performance. In fact, with the support provided by PortugalFoods companies were able to more easily develop their foreign activities, which in the end will reflect an expected improvement of sales volume. This conclusion is consistent with Porter's view that clustered firms have access to several resources that allow them to attain better performance (Porter, 1998).

From the 14 companies interviewed, none identified any firm that has had a decisive role in their internationalization process, which indicates a complete absence of leading firms in PortugalFoods.

Conclusion and discussion of the main lessons gathered

Clusters and internationalization are themes that individually captured the attention of researchers. Having roots in industrial districts (Marshall, 1920), the clusters literature highlights the interaction that occurs between their members, creating an environment that stimulates cooperation (Porter, 1998), knowledge spillovers (Iammarino & McCann, 2006), entrepreneurship (Delgado *et al.*, 2010) and innovation (Engel & del-Palacio, 2009). The existing literature on internationalization emphasizes strategies that can be adopted by firms according to their capabilities: the Uppsala Model with a gradual internationalization strategy (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975); and Born Globals (Rennie, 1993) and International New Ventures (Oviatt & McDougall, 1995, 2005) corresponding to an accelerated internationalization strategy. In both strategies, the network and relationships established are central since they leverage the potential of the firms to internationalize.

However, the literature focused on the interaction between clusters and internationalization is scarce. The existent literature focuses the role of the cluster's network (Karlsen & Nordhus, 2011), leading firm's (Rocha *et al.*, 2007), cluster's resources (Wilk & Fensterseifer, 2003; Zen *et al.*, 2011), temporary clusters like fairs and conventions (Maskell *et al.*, 2006) and of the cluster's reputation (Zyglidopoulos *et al.*, 2006) as a support in the internationalization process.

There are some studies that shed some light on this issue but are scarce. The present study fills this gap and enriches the literature addressing the following research question: How does belonging to a Cluster influence the process of internationalization and the strategies of its members? An empirical application was developed, exploring the case of PortugalFoods, through 14 interviews with carefully selected companies. The firms were split into 4 groups each representing a phase in internationalization: group I - taking the first steps in exports; group II - developing exports activity; group III - consolidated exports; group IV - exporting companies with FDI. From this empirical application within PortugalFoods, some lessons are gathered about the internationalization process of Portuguese firms in agrofood sector and the influence of the cluster in the internationalization process of its members.

During the interviews it was found that the Portuguese firms started to expand abroad in order to overcome limitations of the domestic market, searching for potential markets where expected margins are higher. There is a close relationship between the international Portuguese communities and the companies' target markets. The criteria for the choice of markets for FDI and exports do not differ much. In both the size and potential of the market was the most important criterion, followed by business opportunity, existing relationships or contact of a partner. It was found that the cluster had not a great influence on the choice of markets because, when PortugalFoods was founded, the majority of the firms interviewed already had the strategy and target markets well defined. Angola stands out as the oldest and most representative market in sales volume and is followed by France and Spain. It was also manifested by some firms that public incentives play a huge role in stimulating internationalization, which reinforces the role of public institutions and policies in supporting and stimulating internationalization.

From the 14 firms interviewed, 10 companies, either from the initial or advanced internationalization stages, considered the existing network essential to help facing barriers. Through informal exchange of information and experiences, the companies felt more confident to evolve and further internationalization. Moreover, external agents had an important role, providing information about trends and helping to deal with legal aspects.

PortugalFoods fits the definitions of clusters as described by several authors. As noted in Porter (1998)'s and Langen (2002)'s definition of cluster, PortugalFoods is formed by several actors from a related industry: firms and entities of scientific and technological system and regional and national bodies. Moreover, in PortugalFoods there are companies that develop complementary activities which is in agreement to Maskell (2001) idea of a cluster. Finally in PortugalFoods the two type of companies mentioned by Furlan & Grandinetti (2008) are present: companies that produce final goods and firms operating in the B2B market.

It was found that the reasons that led firms aspiring an international activity to integrate a cluster are mainly access to international information and access to a network, which are pre-conditions to internationalize according to the Uppsala Model (Johanson &

Vahlne, 1977, 2009; Johanson & Wiedersheim-Paul, 1975), and then the opportunity to develop joint R&D. PortugalFoods acts as a facilitator and a booster in the internationalization of its members since it provides the needed information and helps members to build or enrich their network. As shown in the group analysis (section 2.2.3), to different stages of internationalization correspond different needs and difficulties. No significant differences among groups were found in terms of resources provided by the cluster. PortugalFoods has a set of resources that it provides to the members and then, in more specific issues, gives a more tailored support: contacts of partners, specific information on target markets or support to define positioning in foreign markets. The influence of PortugalFoods in getting financial resources is not unanimous between and inside groups. Despite a low overall score assigned and taking also into consideration what was shared during the interviews, PortugalFoods obtains effectively incentives to finance fairs.

Concerning the cooperation between cluster members, it was found that the cooperation is low, since the 14 companies only identified 20 partners. Despite the low cooperation, 5 from 14 companies' representatives recognized cooperation with competitors that are also members of the cluster. This simultaneous cooperation and competition within the cluster corroborates Porter (1998).

In the interviews conducted, a firm with a leading or determinant role in others firms' business or influencing the internationalization process was not identified, thus concluding in favor of the non-existence of a leading firm in PortugalFoods.

Moreover, the subsidiary of a foreign MNE present in the cluster does not have any partnerships within PortugalFoods, which contradicts Elola *et al.* (2012)'s findings according to which a foreign subsidiary will promote an inflow of external knowledge.

A key conclusion arises from the empirical application: despite the differences between the internationalization process of the firms and their capabilities or difficulties, PortugalFoods has a supportive role, providing access to specific information on international markets and contacts of important partners in their internationalization process. PortugalFoods does not have a decisive role, even in firms taking their first

steps, but provide the needed resources to evolve quickly and provide specific information to help making the right decisions and achieve goals.

Although due to the support provided by PortugalFoods some firms carried out successful business, it is not possible yet to analyse and measure the true impact of PortugalFoods because the cluster is too young. It would be an interesting investigation to do that in the future. Additionally it was shown great interest in developing R&D and could be interesting to analyse the impact of PortugalFoods in R&D of clustered companies.

The method found as the most appropriate to develop this dissertation was case studies through interviews. However this methodology does not allow an extensive quantitative treatment and the use of statistical inference or econometric techniques. Additionally, subjectivity and biases caused by respondents' opinions may be present in the collected information during the interviews. Since PortugalFoods was founded recently, it is not possible yet to measure the impact of its activity on its members.

References

- Audretsch, D. & Feldman, M. (1996), "Innovative clusters and the industry life cycle", *Review of Industrial Organization*, Vol. 11, N° 2, pp. 253-273.
- Bell, G. G. (2005), "Clusters, networks, and firm innovativeness", *Strategic Management Journal*, Vol. 26, N° 3, pp. 287-295.
- Bertolini, P. & Giovannetti, E. (2006), "Industrial districts and internationalization: the case of the agri-food industry in Modena, Italy", *Entrepreneurship and regional development*, Vol. 18, N° 4, pp. 279-304.
- Calof, J. L. & Beamish, P. W. (1995), "Adapting to foreign markets: Explaining internationalization", *International Business Review*, Vol. 4, N° 2, pp. 115-131.
- Cassell, C. & Symon, G. (1994), "Qualitative research in work contexts", in C. Cassell & G. Symon (editors), *Qualitative methods in organizational research: a practical guide*, pp. 1-13, London: Sage Publications.
- Cohen, W. M. & Levinthal, D. A. (1990), "Absorptive Capacity: A New Perspective on Learning and Innovation", *Administrative Science Quarterly*, Vol. 35, N° 1, pp. 128-152.
- Coviello, N. E. (2006), "The Network Dynamics of International New Ventures", *Journal of International Business Studies*, Vol. 37, N° 5, pp. 713-731.
- Coviello, N. E. & Cox, M. P. (2006), "The resource dynamics of international new venture networks", *Journal of International Entrepreneurship*, Vol. 4, N° 2-3, pp. 113-132.
- De Martino, R., Reid, D. M. H. & Zyglidopoulos, S. C. (2006), "Balancing localization and globalization:exploring the impact of firm internationalization on a regional cluster", *Entrepreneurship & Regional Development*, Vol. 18, N° 1, pp. 1-24.
- Delgado, M., Porter, M. E. & Stern, S. (2010), "Clusters and entrepreneurship", *Journal of Economic Geography*, Vol. 10, N° 4, pp. 495-518.

- Dunning, J. H. (1988), "The eclectic paradigm of international production: a restatement and some possible extensions", *Journal of International Business Studies*, Vol. 19, Nº 1, pp. 1-31.
- Elola, A., Valdaliso, J. M., López, S. M. & Aranguren, M. J. (2012), "Cluster Life Cycles, Path Dependency and Regional Economic Development: Insights from a Meta-Study on Basque Clusters", *European Planning Studies*, Vol. 20, Nº 2, pp. 257-279.
- Engel, J. S. & del-Palacio, I. (2009), "Global networks of clusters of innovation: Accelerating the innovation process", *Business Horizons*, Vol. 52, Nº 5, pp. 493-503.
- Europeia, C. (2003), "Recomendação da Comissão de 6 de Maio de 2003 relativa à definição de micro, pequenas e médias empresas", *Jornal Oficial da União Europeia*, Vol. 124, Nº 1, pp. 36 - 41.
- Ferretti, M. & Parmentola, A. (2012), "Leading Firms in Technology Clusters: The Role of Alenia Aeronautica in the Campania Aircraft Cluster", *International Journal of Business & Management*, Vol. 7, Nº 21, pp. 65 - 77.
- Furlan, A. & Grandinetti, R. (2008), "Business networks and the internationalization of local cluster suppliers", <http://impgroup.org/uploads/papers/6547.pdf>, accessed on 18/09/2013
- Gabrielsson, M. & Kirpalani, M. (2004), "Born globals: how to reach new business space rapidly", *International Business Review*, Vol. 13, Nº 5, pp. 555-571.
- Giblin, M. (2010), "Managing the Global–Local Dimensions of Clusters and the Role of “Lead” Organizations: The Contrasting Cases of the Software and Medical Technology Clusters in the West of Ireland", *European Planning Studies*, Vol. 19, Nº 1, pp. 23-42.
- Hadley, R. D. & Wilson, H. I. M. (2003), "The network model of internationalisation and experiential knowledge", *International Business Review*, Vol. 12, Nº 6, pp. 697-717.

- Holm, D. B., Eriksson, K. & Johanson, J. (1996), "Creating value through mutual commitment to business network relationships", *Strategic Management Journal*, Vol. 20, N° 5, pp. 467-486.
- Iammarino, S. & McCann, P. (2006), "The structure and evolution of industrial clusters: Transactions, technology and knowledge spillovers", *Research Policy*, Vol. 35, N° 7, pp. 1018-1036.
- INE. (2013), "Empresas em Portugal - 2011", http://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=164075356&att_display=n&att_download=y, accessed on 16/09/2013
- Johanson, J. & Mattsson, L.-G. (1988), "Internationalization in industrial systems - a network approach", in N. Hood & J.-E. Vahlne (editors), *Strategies in Global Competition*, Vol. 19, pp. 287-314, Routledge Library Editions: International Business.
- Johanson, J. & Vahlne, J.-E. (1977), "The Internationalization Process of the Firm - A Model of Knowledge Development and Increasing Foreign Market Commitments", *Journal of International Business Studies*, Vol. 8, N° 1, pp. 23-32.
- Johanson, J. & Vahlne, J.-E. (2009), "The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership", *Journal of International Business Studies*, Vol. 40, N° 9, pp. 1411-1431.
- Johanson, J. & Wiedersheim-Paul, F. (1975), "The Internationalization of the Firm - Four swedish cases", *Journal of Management Studies*, Vol. 12, N° 3, pp. 305-323.
- Karlsen, A. & Nordhus, M. (2011), "Between close and distanced links: Firm internationalization in a subsea cluster in Western Norway", *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, Vol. 65, N° 4, pp. 202-211.

- Klumbies, I. & Bausch, A. (2011), "A narrative review on the influence of cluster location on firm performance", *International Journal of Business Research*, Vol. 11, N° 6, pp. 83-100.
- Kohlbacher, F. (2006), "The Use of Qualitative Content Analysis in Case Study Research", <http://www.qualitative-research.net/index.php/fqs/article/view/75/154>, accessed on 25/07/2014
- Kowalski, A. M. (2014), "The Role of Innovative Clusters in the Process of Internationalization of Firms", *Journal of Economics, Business and Management*, Vol. 2, N° 3, pp. 181-185.
- Krugman, P. (1990), "Increasing returns and economic geography", *Journal of Political Economy*, Vol. 99, N° 3, pp. 483-499.
- Krugman, P. (1998), "What's new about the new economic geography?", *Oxford review of economic policy*, Vol. 14, N° 2, pp. 7-17.
- Langen, P. W. (2002), "Clustering and performance: the case of maritime clustering in The Netherlands", *Maritime Policy & Management*, Vol. 29, N° 3, pp. 209-221.
- Libaers, D. & Meyer, M. (2011), "Highly innovative small technology firms, industrial clusters and firm internationalization", *Research Policy*, Vol. 40, N° 10, pp. 1426-1437.
- Marshall, A. (1920), "Industrial Organization, continued. The concentration of specialized industries in particular localities", *Principles of Economics*, 8th ed., pp. 208-221, London: Macmillan and Co.
- Martin, R. & Sunley, P. (2011), "Conceptualizing Cluster Evolution: Beyond the Life Cycle Model?", *Regional Studies*, Vol. 45, N° 10, pp. 1299-1318.
- Maskell, P. (2001), "Towards a knowledge-based theory of the geographical cluster", *Industrial and corporate change*, Vol. 10, N° 4, pp. 921-943.

- Maskell, P., Bathelt, H. & Malmberg, A. (2006), "Building global knowledge pipelines: the role of temporary clusters", *European Planning Studies*, Vol. 14, N° 8, pp. 997-1013.
- Molina-Morales, F. X. (2001), "European industrial districts: Influence of geographic concentration on performance of the firm", *Journal of International Management*, Vol. 7, N° 4, pp. 277-294.
- OJE. (2014), "PortugalFoods Vence Prémio Europeu", <http://www.oje.pt/pt/portugalfoods-vence-premio-europeu>, accessed on 01/08/2014
- Oviatt, B. M. & McDougall, P. P. (1995), "Global Start-Ups: Entrepreneurs on a Worldwide Stage", *The Academy of Management Executive*, Vol. 9, N° 2, pp. 30-44.
- Oviatt, B. M. & McDougall, P. P. (2005), "Toward a Theory of International New Ventures", *Journal of International Business Studies*, Vol. 36, N° 1, pp. 29-41.
- Porter, M. E. (1990), "The Competitive Advantage of Nations", *Harvard Business Review*, Vol. 68, N° 2, pp. 73-93.
- Porter, M. E. (1998), "Clusters and the new economics of competition", *Harvard Business Review*, Vol. 76, N° 6, pp. 77-90.
- PortugalFoods. (2013), "Dossier de apresentação PortugalFoods", http://www.portugalfoods.org/pdf/Dossie_PortugalFoods_2013.pdf, accessed on 01/10/2013
- PortugalFoods. (2014), <http://www.portugalfoods.org/>, accessed on 15/09/2013
- Pyke, F., Becattini, G. & Sengenberger, W. (1990), *Industrial districts and inter-firm co-operation in Italy*, Geneva: International Institute for Labour Studies.
- Rennie, M. W. (1993), "Global competitiveness: Born global", *The McKinsey Quarterly*, Vol. 1, N° 4, pp. 45-52.

- Rocha, A. M. C., Pereira, B. K. C. & Monteiro, J. (2007), "The Internationalization of Industrial Clusters: Cooperation and Competition", http://www.anpad.org.br/evento.php?acao=trabalho&cod_edicao_subsecao=255&cod_evento_edicao=30&cod_edicao_trabalho=6737, accessed on 15/11/2013
- Saxenian, A. (1996), "Inside-out: regional networks and industrial adaptation in Silicon Valley and Route 128", *Cityscape: A Journal of Policy Development and Research*, Vol. 2, N° 2, pp. 41-60.
- Sousa, M. J. & Baptista, C. S. (2011), *Como fazer investigação, dissertações, teses e relatórios segundo Bolonha* (4 ed.), Lisboa: Pactor-Lidel.
- Welch, L. S. & Luostarinen, R. (1988), "Internationalization: Evolution of a Concept", *Journal of General Management*, Vol. 14, N° 2, pp. 34-55.
- Wennberg, K. & Lindqvist, G. (2010), "The effect of clusters on the survival and performance of new firms", *Small Business Economics*, Vol. 34, N° 3, pp. 221-241.
- Wilk, E. d. O. & Fensterseifer, J. E. (2003), "Use of resource-based view in industrial cluster strategic analysis", *International Journal of Operations & Production Management*, Vol. 23, N° 9, pp. 995-1009.
- Yin, R. K. (2009), *Case study research: Design and methods* (4 ed.), London: Sage publications.
- Zen, A. C., Fensterseifer, J. E. & Prévot, F. (2011), "Internationalization of Clustered Companies and the Influence of Resources: A Case Study on Wine Clusters in Brazil and France", *Latin American Business Review*, Vol. 12, N° 2, pp. 123-141.
- zu Köcker, G. M., Müller, L. & Zombori, Z. (2011), "European Clusters Go International - Networks and clusters as instruments for the initiation of international business cooperation", <http://www.tci-network.org/news/card/314>, accessed on 10/09/2013

Zyglidopoulos, S. C., DeMartino, R. & Reid, D. M. (2006), "Cluster Reputation as a Facilitator in the Internationalization of Small and Medium-Sized Enterprises", *Corporate Reputation Review*, Vol. 9, N° 1, pp. 79-87.

Appendices

Appendix A: Interview Guidelines

Clusters and Internationalization

This questionnaire is confidential and only will be used for research purposes in the context of the School of Economics and Business of the University of Porto.

Interviewee: _____ **Position in the company:** _____

A. General Data:

Company name: _____ Year of foundation: _____

No. of employees (2013): _____ Turnover (2013): _____

Family business? Yes ☐ No ☐

B. Internationalization Process:

B.1. In which moment the internationalization process started? Year: _____

1. At the foundation of the company ☐
2. After the establishment in domestic market ☐
3. Simultaneously with the establishment in the domestic market ☐

B.2. Motivations to internationalize

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important)

- | | 0 | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Personal experience or entrepreneur / manager network | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Access to new markets with growth potential | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Limitations of the internal market | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Demand for resources (human, natural, financial) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Demand for strategic assets (scientific and technologic) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Follow customers / partners | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Follow competitors | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Others – Which ones? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

B.3. Entry modes and establishment adopted by the company

1. Exports through distributor ☐
2. Direct exports made by the company ☐
3. Licensing/Franchising ☐
4. Subcontracting ☐
5. Other contractual forms (management contracts, distribution partnerships, shared production or strategic alliances) ☐
6. Establishment of a sales unit
 - a) Set up of a firm abroad ☐
 - b) Acquisition of an existing firm abroad ☐

7. Establishment of a manufacturing unit
- a) Set up of a firm abroad ☐
- b) Acquisition of an existing firm abroad ☐

B.4. Markets

B.4.1. Which are the most important factors in the selection of foreign markets?

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important;
4 – Very Important; 5 – Extremely important)

	Exports						Foreign Units					
	0	1	2	3	4	5	0	1	2	3	4	5
1. Territorial proximity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Linguistic and cultural proximity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Market dimension / potential	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Existing business or personal relationship	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Contact of a partner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Being located near of the main competitors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. Business opportunities	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. Motivated by the cluster	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. Others – Which ones?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

B.4.2. List the first 3 international markets starting with the oldest entry

B.4.2.1. Through exports

Country 1: _____ Year: ____ Country 2: _____ Year: ____ Country 3: _____ Year: ____

B.4.2.2. Through foreign units (if applicable)

Country 1: _____ Year: ____ Country 2: _____ Year: ____ Country 3: _____ Year: ____

B.4.3. List the first 3 exports international markets starting with the highest sales volume

Country 1: _____ Year: ____ Country 2: _____ Year: ____ Country 3: _____ Year: ____

B.5. Export (data from the latest available year) Year: _____

% of exports in the sales volume: _____

Number of exporting countries: European Union _____ Total _____

B.6. Foreign units (data from the latest available year) Year: _____

Share (%) of sales units in the total of company turnover _____

Number. of countries with units: European Union _____ Total _____

B.7. Has the company resorted to any external entity to set or monitor the process of internationalization? No ☐ Yes ☐ Which one? _____

B.8. The company only operates under own brand or also with other brands?

B.9. To what extent have used the following sources to finance internationalization?

(0 - Null; 1 - Residual; 2 - Partial; 3 - Majority; 4 - Exclusive)

	0	1	2	3	4
1. Equity	☐	☐	☐	☐	☐
2. Bank loans	☐	☐	☐	☐	☐
3. Financial Incentives	☐	☐	☐	☐	☐
4. Others – Which ones?	☐	☐	☐	☐	☐

B.10. What are the main barriers faced to internationalize and to what extent the PortugalFoods (PTFoods) helped to overcome them?

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important)

	Barrier						PTFoods Influence					
	0	1	2	3	4	5	0	1	2	3	4	5
1. Lack of knowledge about foreign markets	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Linguistic and cultural differences	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Lack of international experience	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Disloyal or opportunistic behavior of partners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Hiring human resources with the required qualifications in the destination country	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Accessing funding	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. Develop the organizational structure abroad	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. Strong competition in the target market in terms of price, quality or other factors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. Control of distribution channels	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. Reputation of Portugal	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
11. Bureaucracy / legal aspect	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12. Insufficient financial incentives	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13. Another. – Which one?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

B.11. The network was crucial to overcome some of the mentioned barriers?

C. PortugalFoods Influence

C.1. Year of association to PortugalFoods: _____

C.2. Goals expected and benefits achieved with the integration in PortugalFoods:

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important;
4 – Very Important; 5 – Extremely important)

	Goal						Benefits					
	0	1	2	3	4	5	0	1	2	3	4	5
1. Access to a network	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Access to training / education	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Access to skilled human resources	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Access to knowledge about foreign markets	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Access to incentives / financial resources	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Opportunity to develop joint R&D	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. Another – Which one?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

C.3. Initiatives developed by PortugalFoods in which the company participated and their relevance:

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important;
4 – Very Important; 5 – Extremely important)

	0	1	2	3	4	5
1. Fairs	☐	☐	☐	☐	☐	☐
2. Inverse missions	☐	☐	☐	☐	☐	☐
3. Workshops to share experiences	☐	☐	☐	☐	☐	☐
4. Joint R&D activities	☐	☐	☐	☐	☐	☐
5. Another – Which one?	☐	☐	☐	☐	☐	☐

C.4. Which are the main partners within the PortugalFoods:

1. Companies that develop the same activity	☐
2. Companies that develop complementary activities	☐
3. Clients	☐
4. Suppliers	☐
5. R&D institutions	☐
6. Another – Which one?	☐

C.5. Any of the partners had already started the internationalization process?

Yes ☐ No ☐

If yes, the partner was present in any of the markets for which internationalized?

Yes ☐ No ☐

The partners somehow influenced the internationalization process?

Yes ☐ No ☐

C.6. What are the reasons to cooperate:

1. Sharing of risk ☐
2. Sharing of costs ☐
3. Get access to a network ☐
4. Opportunity to develop joint R&D ☐
5. To exchange knowledge and experiences ☐
6. Benefit the process of internationalization of partners ☐
7. Another – Which one? ☐

C.7. Cooperation is mainly promoted by the initiative:

1. Companies ☐
2. PortugalFoods ☐
3. External entity ☐
4. Another – Which one? ☐

C.8. The company cooperates with any competitor that is also a member of PortugalFoods? Yes ☐ No ☐

C.9. Usually the company shares knowledge with other members of PortugalFoods? Yes ☐ No ☐

If yes, the effect of that sharing is: Positive ☐ Negative ☐

C.10. The R&D activity is developed:

1. Isolated ☐
2. In partnership with PortugalFoods ☐
3. With partners / institutions external to PortugalFoods ☐

C.11. At what stage in the history of the company did the investment in innovation increase?

C.12. Please classify the influence of PortugalFoods in the internationalization process in terms of:

(0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important)

- | | 0 | 1 | 2 | 3 | 4 | 5 |
|------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Encouraging to internationalize | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Choice of countries | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Access to strategic partners | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Access to financial resources | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

	0	1	2	3	4	5
5. Contributed to improved performance in terms of:						
a) Sales increase	☐	☐	☐	☐	☐	☐
b) Profits	☐	☐	☐	☐	☐	☐
c) Innovation	☐	☐	☐	☐	☐	☐
6. International consolidation of company image	☐	☐	☐	☐	☐	☐

C.13. Is there any PortugalFoods associated company that had a decisive role in the company's internationalization process? Yes ☐ No ☐

Appendix B: Tables

Table A.1: Selected companies divided by groups

Groups	Name	Dimension	Nr Employees	Turnover in 2013 (€)	Company age	Nr of years of internationalization	Year of PT Foods membership	No. of Markets
I Taking the first steps in exports	A	Micro	4	200.000	1	1	2013	3
	B	Micro	1	20.000	3	3	2013	3
II Developing exports activity	C	SME	20	2 M	23	2	2011	7
	D	SME	25	2 M	11	9	2008	7
	E	Large	600	118 M	14	5	2013	15
III Consolidated exports	F	SME	50	8-10 M	19	17	2010	30
	G	SME	160	21 M	32	29	2011	23
	H	SME	199	31 M	71	22	2009	45
	I	SME	150	7 M	76	76	2012	8
	J	SME	230	30 M	161	161	2008	45
IV Exporting companies with FDI	K	SME	65	3 M	32	10	2012	4
	L	Large	900	200 M	53	44	2011	>30
	M	Large	650	200 M	95	20	2010	38
	N	Large	550	105 M	27	24	2008	20

Legend: M – Millions of Euros; Company age – Number of years since company foundation.

Source: Own elaboration.

Table A.2: Export destination markets identified by all companies – oldest entry criteria (Interview Guideline B.4.2.1)

Markets	Export destination markets - oldest entry			
	M1	M2	M3	Total
Angola	2	1	4	7
France	3	2	2	7
Spain	2	3	0	5
England	0	2	2	4
Cape Verde	1	1	1	3
Italy	1	0	2	3
USA	3	0	0	3
Austria	1	0	1	2
Germany	0	1	1	2
Brazil	0	1	0	1
Ireland	1	0	0	1
Luxembourg	0	0	1	1
Morocco	0	1	0	1
Mozambique	0	1	0	1
Senegal	0	1	0	1
Belgium	0	0	0	0
Japan	0	0	0	0
Poland	0	0	0	0
Information not available	0	0	0	0
Total	14	14	14	42

Legend: M1 – first market in which company entered; M2 – second market in which the company entered; M3 – third market in which the company entered.

Observation: Sum of markets identified by the 14 companies.

Source: Own elaboration.

Table A.3: Export destination markets identified by all companies – sales volume criteria (Interview Guideline B.4.3.)

Markets	Export destination markets - sales volume			
	M1	M2	M3	Total
Angola	6	0	1	7
France	2	3	1	6
Spain	1	5	0	6
England	2	0	1	3
Morocco	0	1	1	2
Austria	0	1	0	1
Belgium	0	1	0	1
Brazil	0	0	1	1
Cape Verde	0	0	1	1
Ireland	0	1	0	1
Italy	0	0	1	1
Japan	0	0	1	1
Mozambique	0	0	1	1
Poland	0	0	1	1
USA	1	0	0	1
Germany	0	0	0	0
Luxembourg	0	0	0	0
Senegal	0	0	0	0
Information not available	2	2	4	8
Total	14	14	14	42

Legend: M1 – the most representative market in terms of sales volume; M2 – the second most representative market in terms of sales volume ; M3 – the third most representative market in terms of sales volume.

Observation: Sum of markets identified by the 14 companies.

Source: Own elaboration.

Table A.4: Analysis of the barriers faced to internationalize and influence of PortugalFoods to overcome them (Interview Guideline B.10.)

Groups	Analysis 1		Analysis 2	
	Barrier	PTFoods Influence	Barrier	PTFoods Influence
I	2,08	1,79	2,50	2,15
II	2,19	1,40	2,63	1,72
III	2,35	1,73	2,78	2,04
IV	2,85	1,67	2,85	1,67
General	2,42	1,66	2,78	1,95

Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers considered in the analysis 1:

1. Lack of knowledge about foreign markets
2. Linguistic and cultural differences
3. Lack of international experience
4. Disloyal or opportunistic behavior of partners
5. Hiring human resources with the required qualifications in the destination country
6. Accessing funding
7. Develop the organizational structure abroad
8. Strong competition in the target market in terms of price, quality or other factors
9. Control of distribution channels
10. Reputation of Portugal
11. Bureaucracy / legal aspect
12. Insufficient financial incentives

Barriers considered in the analysis 2: the same in analysis 1 excluding “hiring human resources with the required qualifications in the destination country” and “develop the organizational structure abroad”.

Source: Own elaboration.

Table A.5: Goals expected and benefits achieved with the integration in PortugalFoods (Interview Guideline C.2.)

Groups	Goal	Benefit
I	2,50	2,25
II	2,11	2,33
III	2,90	3,27
IV	3,25	2,92
General	2,77	2,82

Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and benefits considered in the analysis:

1. Access to a network
2. Access to training / education
3. Access to skilled human resources
4. Access to knowledge about foreign markets
5. Access to incentives / financial resources
6. Opportunity to develop joint R&D

Source: Own elaboration.

Table A.6: Identification of partners within the PortugalFoods (Interview Guideline C.4. and C.8.)

Groups	The main partners within the PortugalFoods						Cooperates with a competitor from PTFoods
	Total	Same activity	Complementary activities	Clients	Suppliers	R&D Institutions	
I	2	0	1	0	1	0	1
II	2	1	0	0	0	1	1
III	7	1	2	0	3	1	2
IV	9	1	1	2	3	2	1
Total	20	3	4	2	7	4	5

Observation: Sum of the number of partners identified by the companies of each group. E.g.: the companies from group I identified 1 partner that is also its supplier.

Source: Own elaboration.

Table A.7: Reasons to cooperate identified by the companies (Interview Guideline C.6.)

Groups	Reasons to cooperate					
	Sharing of risk	Sharing of costs	Get access to a network	To develop joint R&D	To exchange knowledge and experiences	Benefit the process of internationalization of partners
I	0	2	2	1	1	1
II	1	1	1	1	3	1
III	3	4	5	4	5	1
IV	3	3	2	3	3	2
Total	7	10	10	9	12	5

Observation: Each company identified several reasons to cooperate and in this table the reasons mentioned were sum by groups. E.g.: From group III, 5 companies identified get access to a network as a reason to cooperate.

Source: Own elaboration.

Table A.8: Identification of the entity that mainly promoted the cooperation (Interview Guideline C.7.)

Groups	Cooperation is promoted by the initiative		
	Companies	PortugalFoods	External entity
General	9	7	1

Observation: Sum of the answers of the all interviewed companies. E.g.: 7 of the 14 interviewed companies identified PortugalFoods as a promoter of cooperation.

Source: Own elaboration.

Table A.9: How the R&D activity is developed (Interview Guideline C.10.)

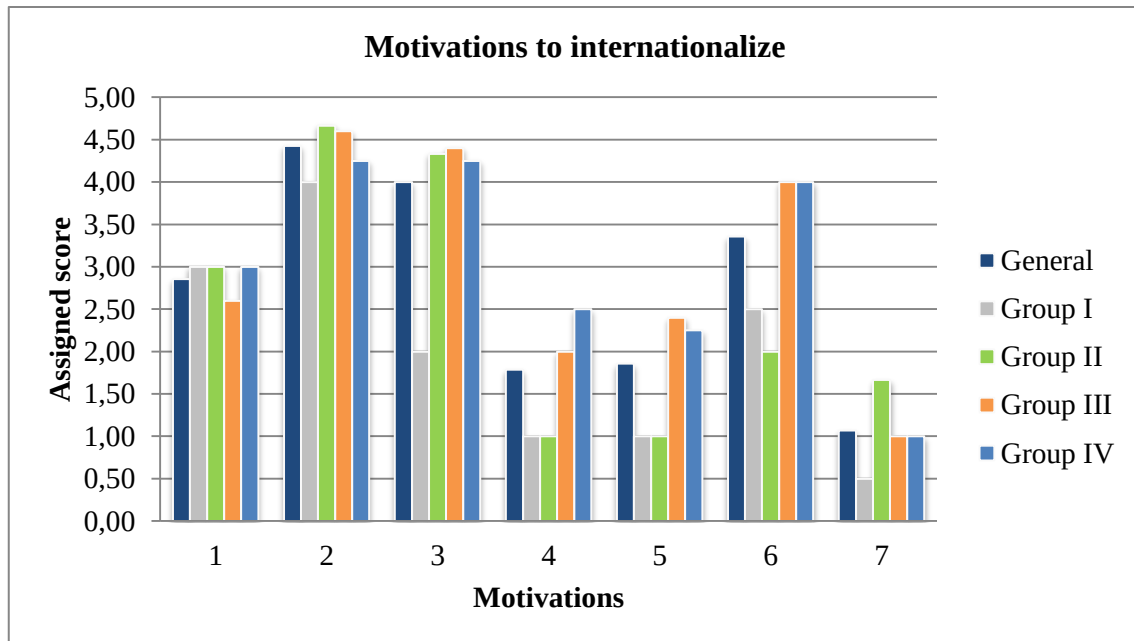
Groups	The R&D activity is developed		
	Isolated	In partnership with PortugalFoods	With partners / institutions external to PortugalFoods
I	1	0	0
II	3	2	1
III	5	3	4
IV	4	2	3
Total	13	7	8

Observation: Sum of the answers of the interviewed companies. E.g.: In group IV 2 companies reveal that R&D activity is developed in partnership with PortugalFoods.

Source: Own elaboration.

Appendix C: Figures

Figure A.1: Motivations to Internationalize (Interview Guideline B.2.)



Observation: calculated using the average of assigned scores.

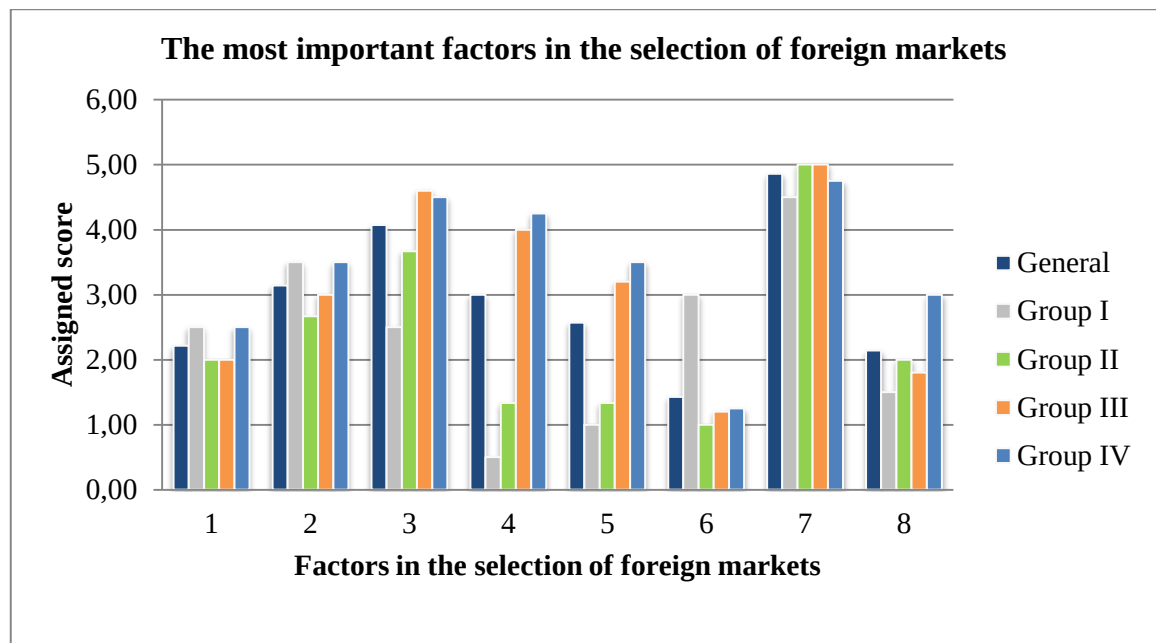
Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Motivations:

- 1- Personal experience or entrepreneur/manager network
- 2- Access to new markets with growth potential
- 3- Limitations of the internal market
- 4- Demand for resources (human, natural, financial)
- 5- Demand for strategic assets (scientific and technologic)
- 6- Follow customers / partners
- 7- Follow competitors

Source: Own elaboration.

Figure A.2: The most important factors in the selection of foreign markets (Interview Guideline B.4.1.)



Observation: calculated using the average of assigned scores.

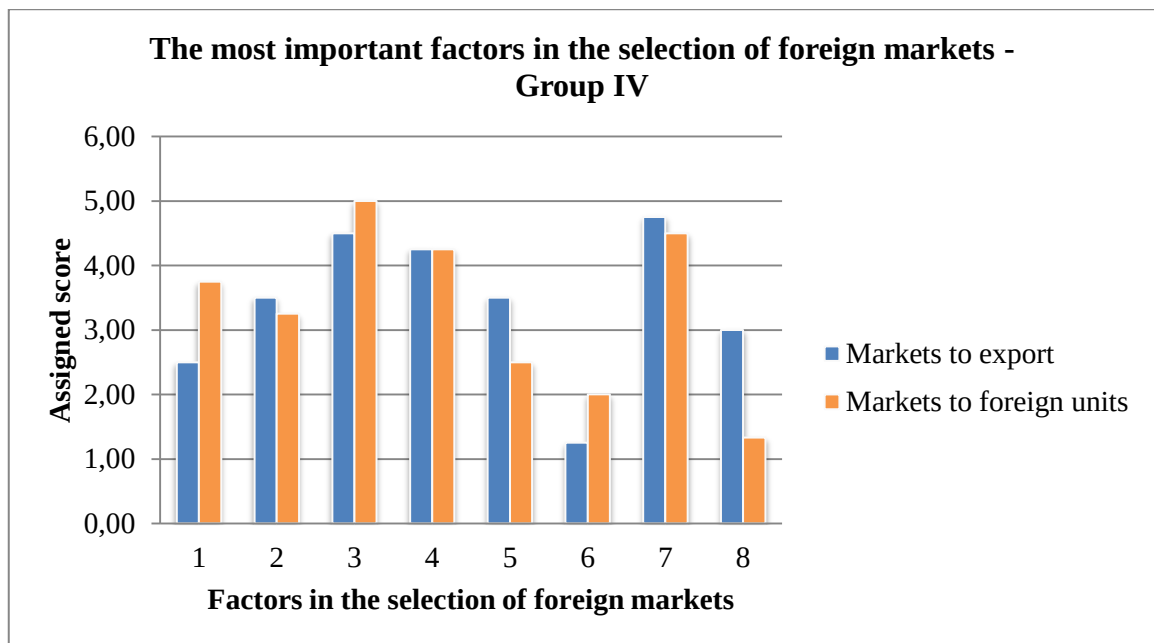
Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Factors:

- 1- Territorial proximity
- 2- Linguistic/cultural proximity
- 3- Market dimension/potential
- 4- Existing business or personal relationship
- 5- Contact of a partner
- 6- Located near of competitors
- 7- Business opportunities
- 8- Motivated by the cluster

Source: Own elaboration.

Figure A.3: The most important factors in the selection of foreign markets – Group IV (Interview Guideline B.4.1.)



Observation: calculated using the average of assigned scores.

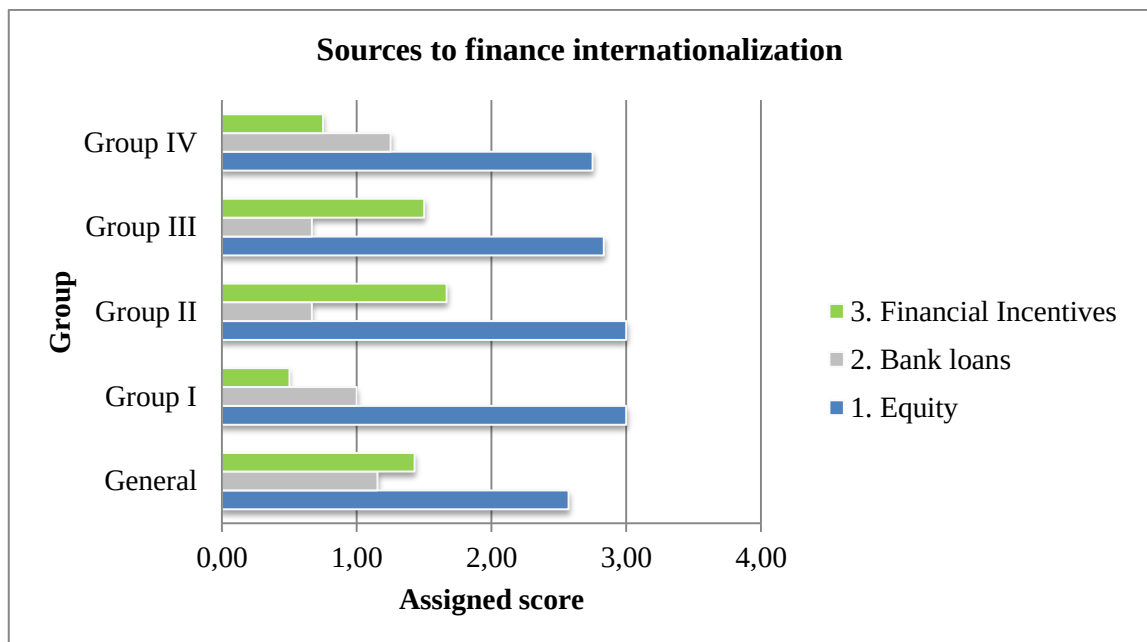
Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Factors:

- 1- Territorial proximity
- 2- Linguistic/cultural proximity
- 3- Market dimension/potential
- 4- Existing business or personal relationship
- 5- Contact of a partner
- 6- Located near of competitors
- 7- Business opportunities
- 8- Motivated by the cluster

Source: Own elaboration.

Figure A.4: Sources to finance internationalization (Interview Guideline B.9.)

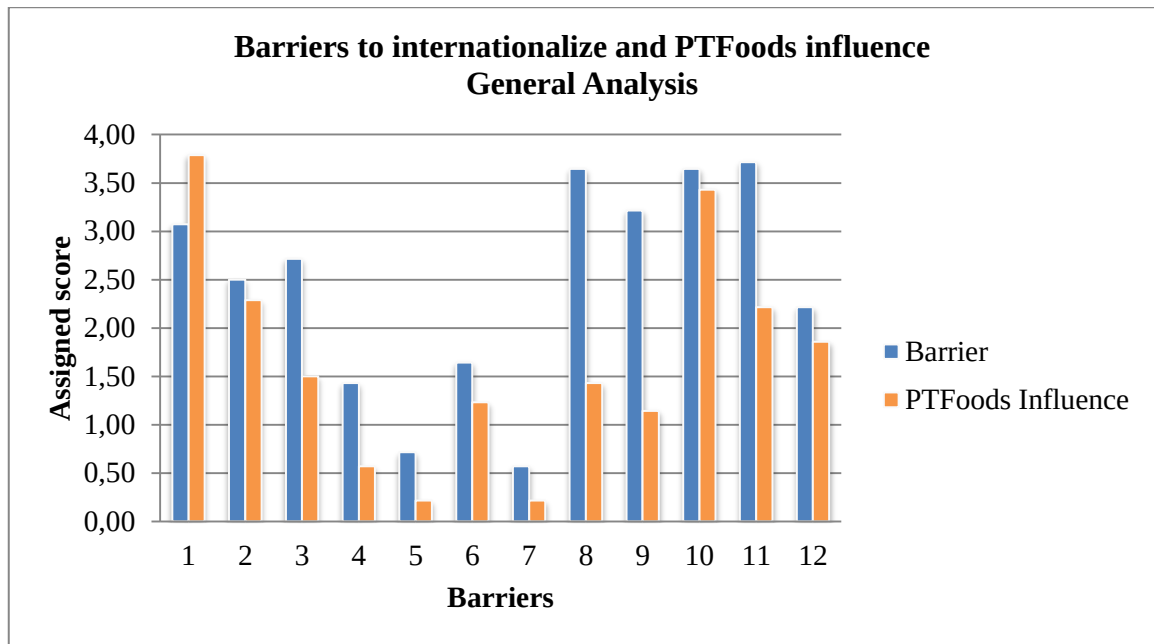


Observation: calculated using the average of assigned scores.

Assigned score: 0 – Null; 1 – Residual; 2 – Partial; 3 – Majority; 4 – Exclusive

Source: Own elaboration.

Figure A.5: Barriers to internationalize and PortugalFoods (PTFoods) influence - General Analysis (Interview Guideline B.10.)



Observation: calculated using the average of assigned scores.

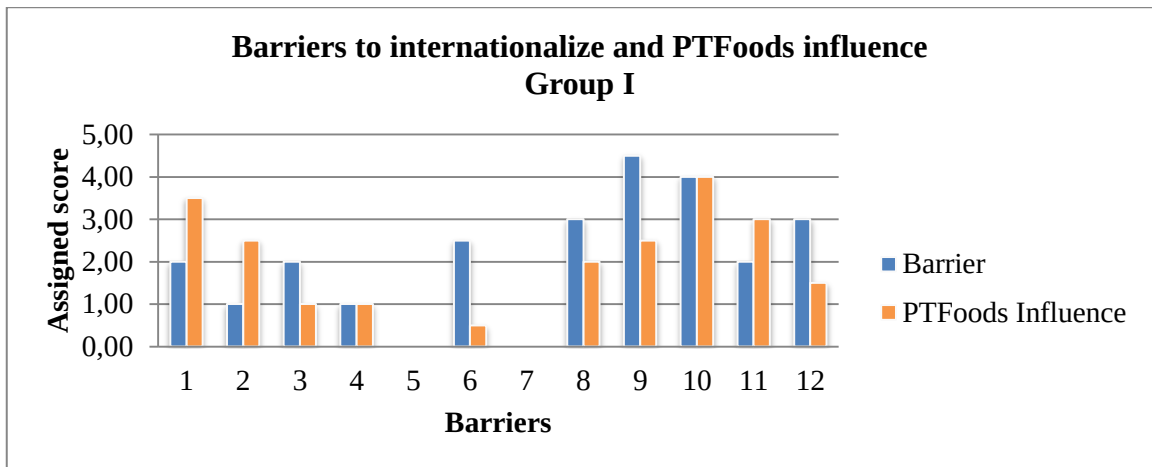
Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers:

- 1- Lack of knowledge
- 2- Linguistic and cultural differences
- 3- Lack of international experience
- 4- Behavior of partners
- 5- Hiring human resources aboard
- 6- Access to funding
- 7- Develop the organizational structure
- 8- Strong competition aboard
- 9- Control of distribution channels
- 10- Reputation of Portugal
- 11- Bureaucracy / legal aspect
- 12- Insufficient financial incentives

Source: Own elaboration.

Figure A.6: Barriers to internationalize and PortugalFoods (PTFoods) influence – Group I (Interview Guideline B.10.)



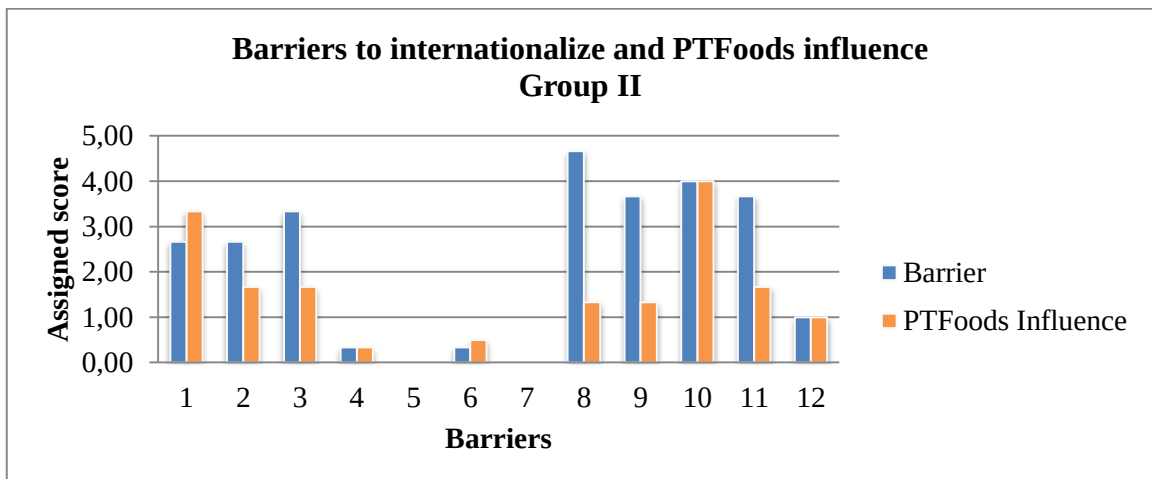
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers are the same as in Figure A.5.

Source: Own elaboration.

Figure A.7: Barriers to internationalize and PortugalFoods (PTFoods) influence – Group II (Interview Guideline B.10.)



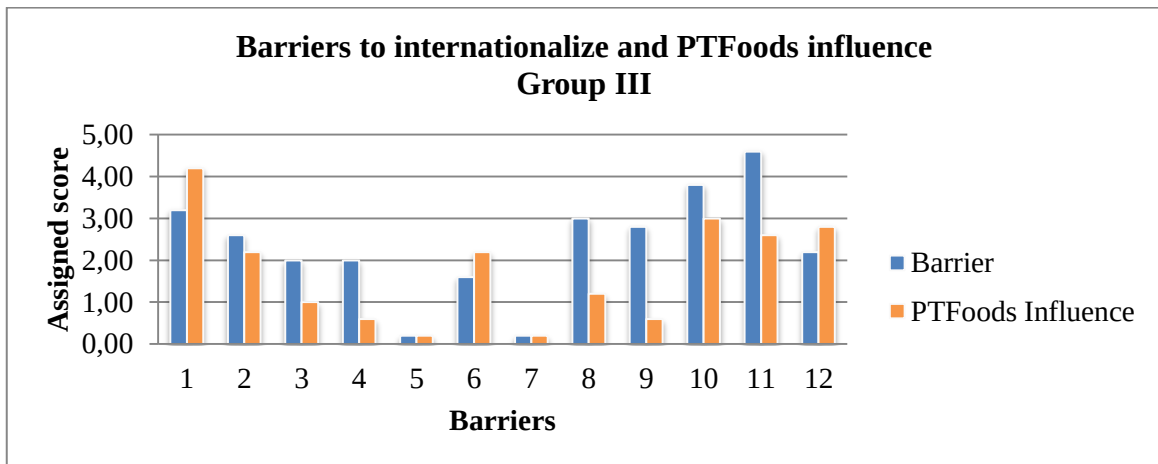
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers are the same as in Figure A.5.

Source: Own elaboration.

Figure A.8: Barriers to internationalize and PortugalFoods (PTFoods) influence - Group III (Interview Guideline B.10.)



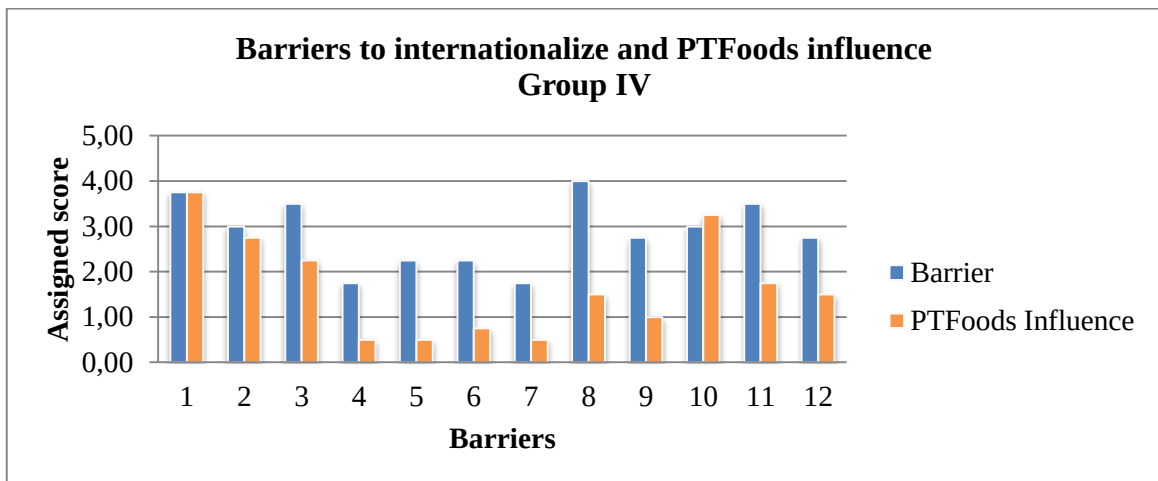
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers are the same as in Figure A.5.

Source: Own elaboration.

Figure A.9: Barriers to internationalize and PortugalFoods (PTFoods) influence - Group IV (Interview Guideline B.10.)



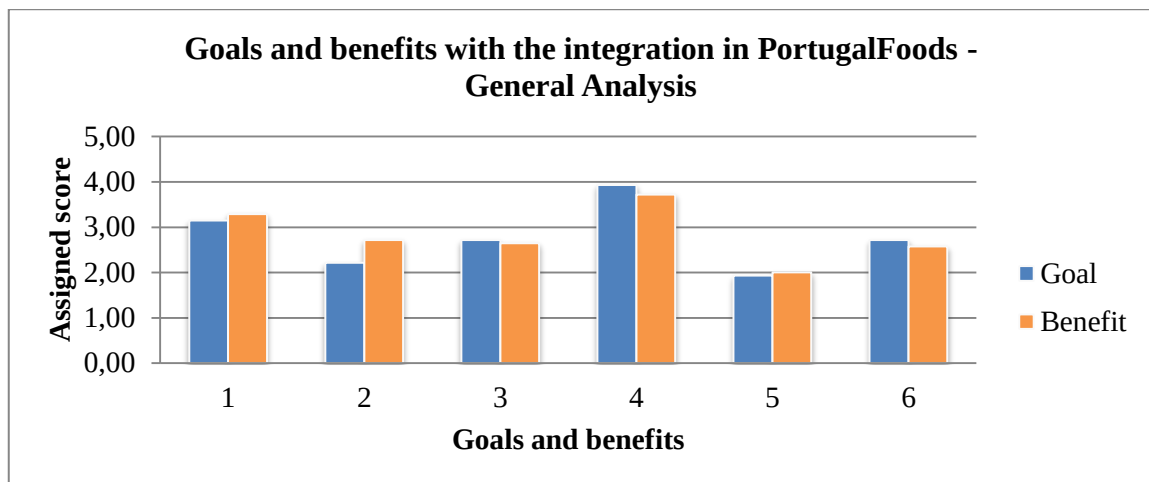
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Barriers are the same as in Figure A.5.

Source: Own elaboration.

Figure A.10: Goals expected and benefits achieved with the integration in PortugalFoods – General Analysis (Interview Guideline C.2.)



Observation: calculated using the average of assigned scores.

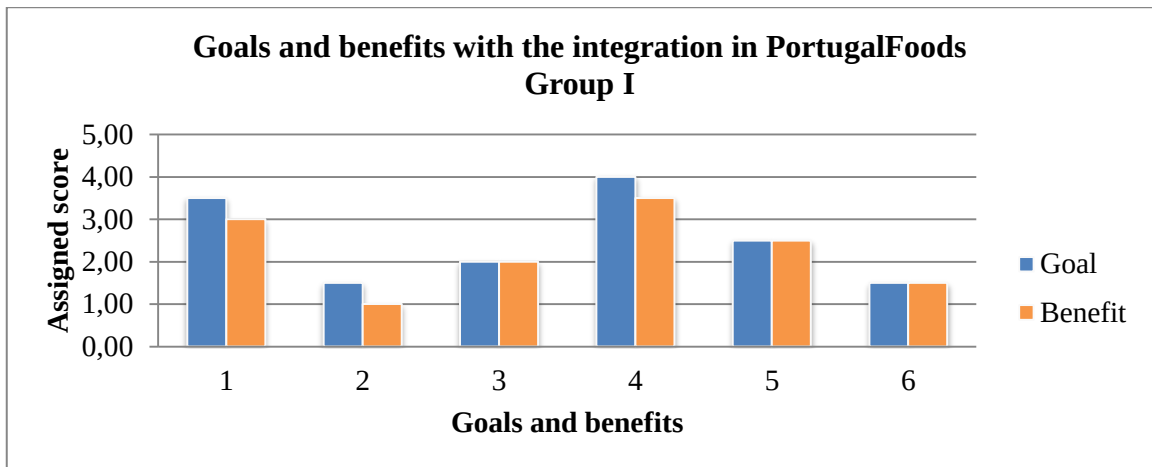
Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and Benefits:

- 1- Access to a network
- 2- Access to training / education
- 3- Access to skilled human resources
- 4- Access to international information
- 5- Access to incentives/financial resources
- 6- Develop R&D

Source: Own elaboration.

Figure A.11: Goals expected and benefits achieved with the integration in PortugalFoods – Group I (Interview Guideline C.2.)



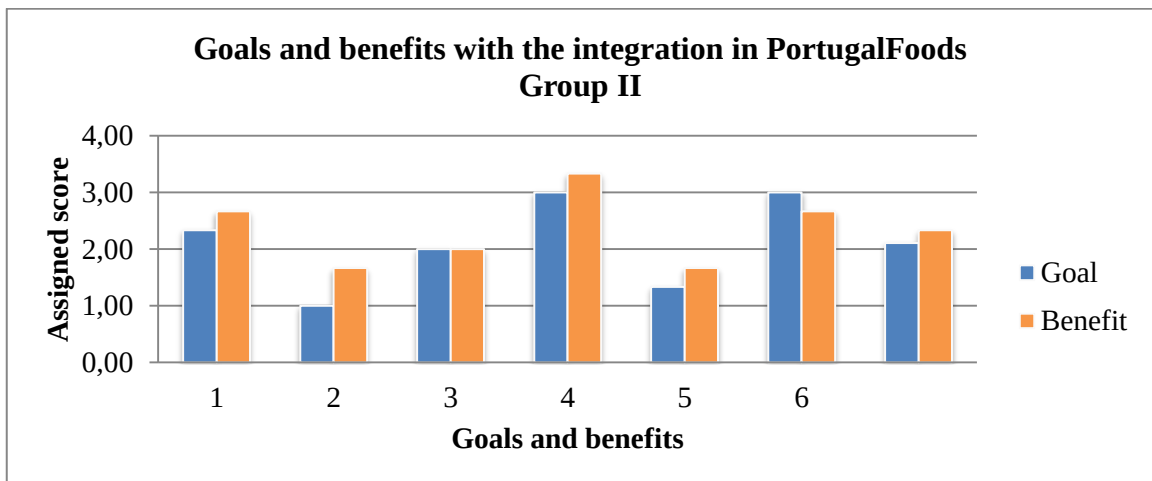
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and benefits are the same as in Figure A.10.

Source: Own elaboration.

Figure A.12: Goals expected and benefits achieved with the integration in PortugalFoods – Group II (Interview Guideline C.2.)



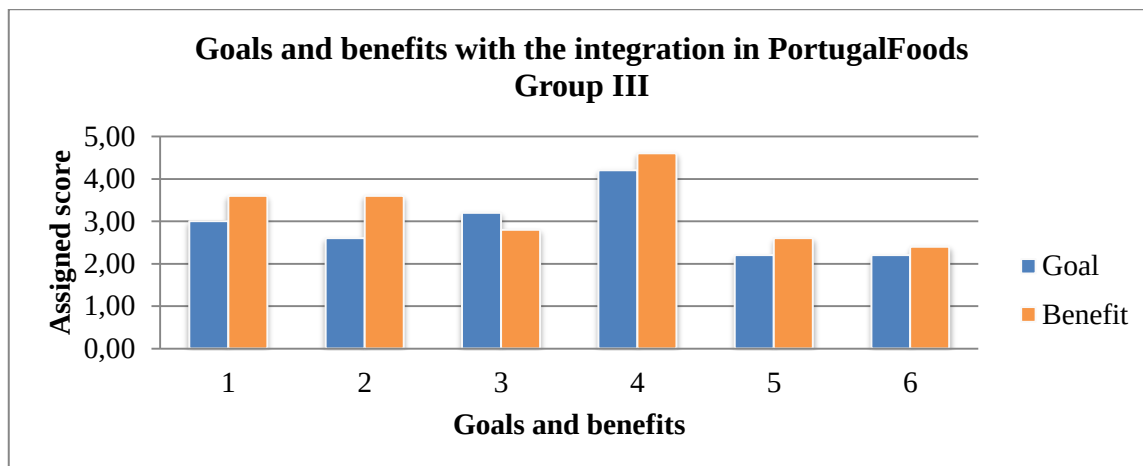
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and benefits are the same as in Figure A.10.

Source: Own elaboration.

Figure A.13: Goals expected and benefits achieved with the integration in PortugalFoods – Group III (Interview Guideline C.2.)



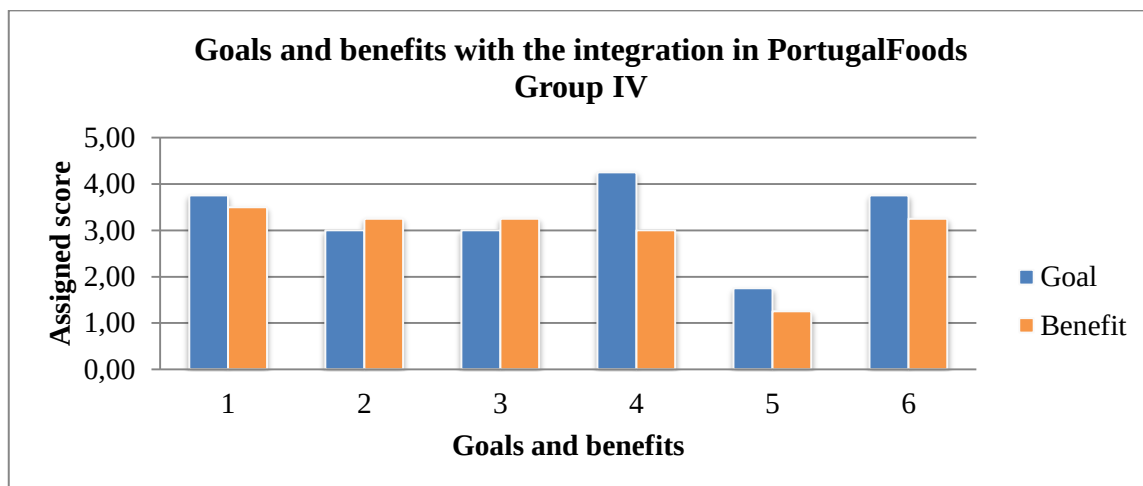
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and benefits are the same as in Figure A.10.

Source: Own elaboration.

Figure A.14: Goals expected and benefits achieved with the integration in PortugalFoods – Group IV (Interview Guideline C.2.)



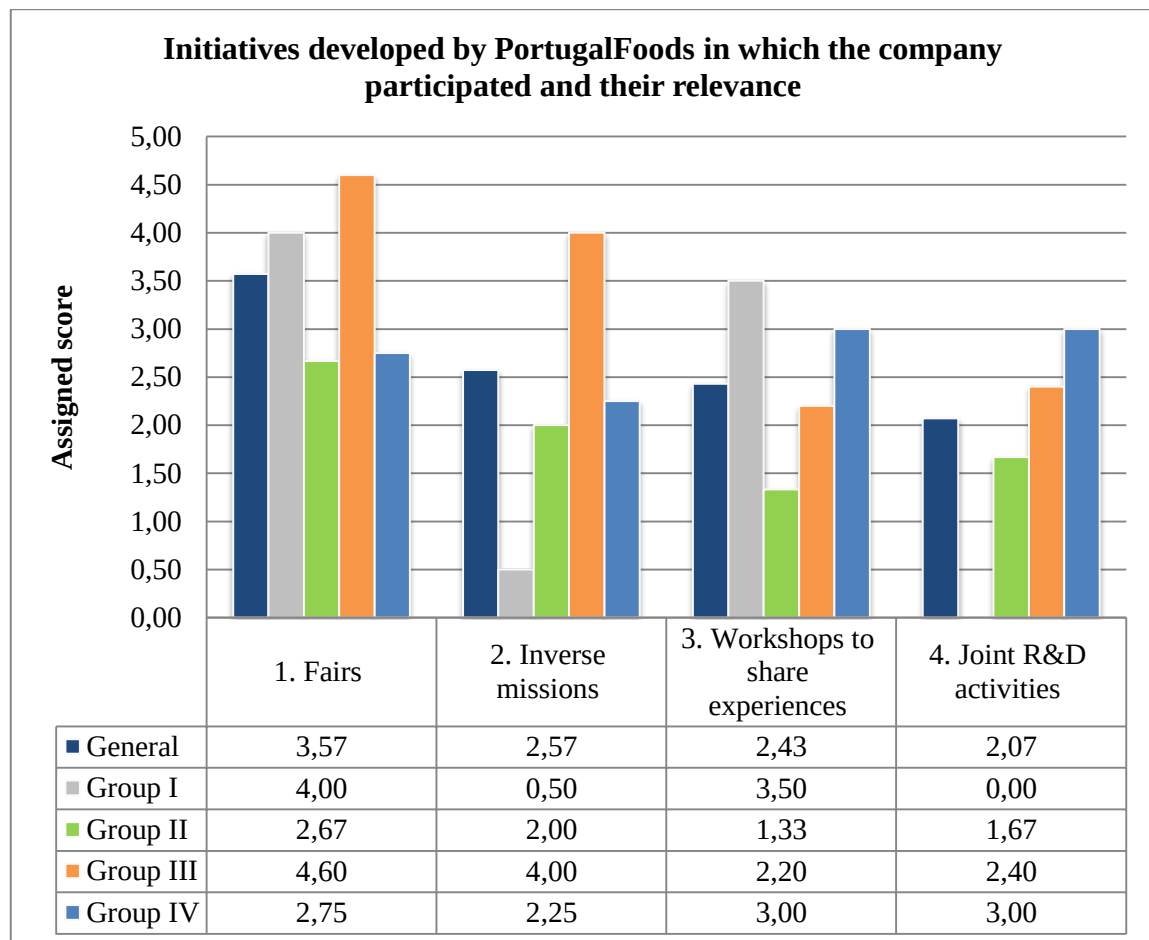
Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Goals and benefits are the same as in Figure A.10.

Source: Own elaboration.

Figure A.15: Initiatives developed by PortugalFoods in which the company participated (Interview Guideline C.3.)

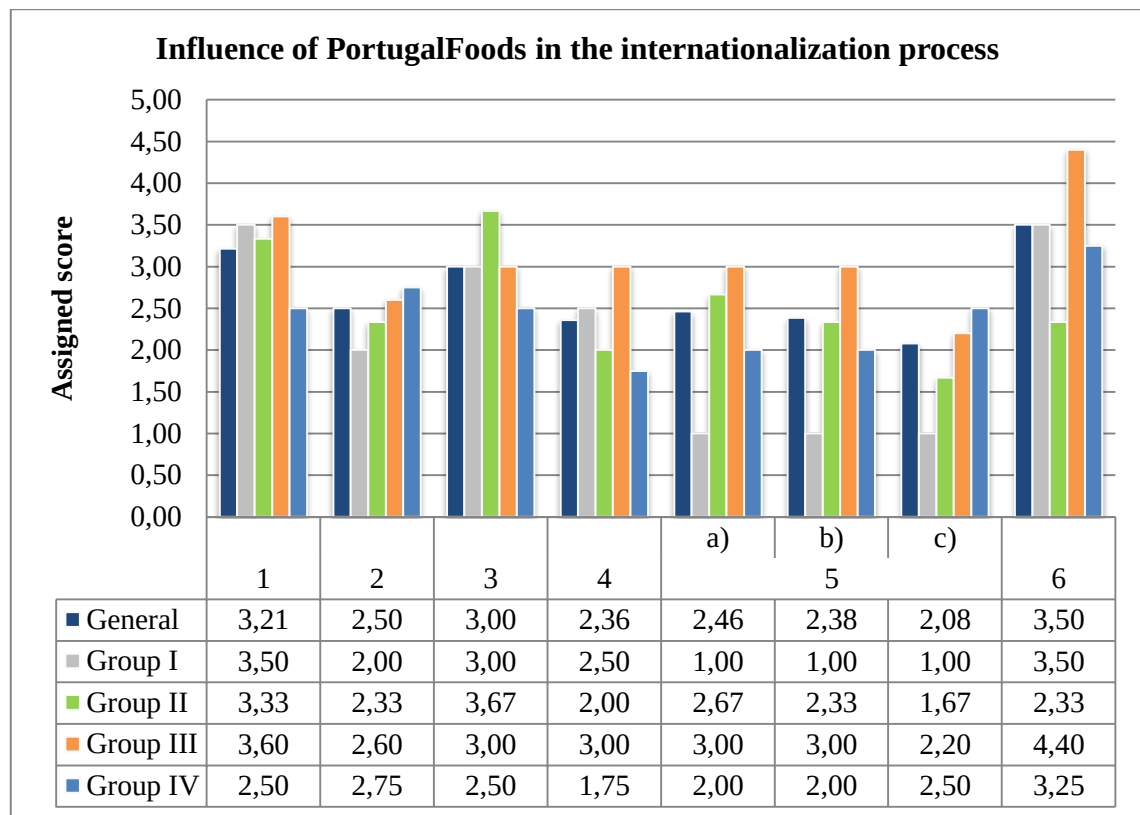


Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Source: Own elaboration.

Figure A.16: Influence of PortugalFoods in the internationalization process (Interview Guideline C.12.)



Observation: calculated using the average of assigned scores.

Assigned score: 0 – Not applicable; 1 – Nothing important; 2 – Not very important; 3 – Moderately important; 4 – Very Important; 5 – Extremely important

Legend:

- 1- Encouraging to internationalize;
- 2- Choice of countries;
- 3- Access to strategic partners;
- 4- Access to financial resources;
- 5- Contributed to improved performance in terms of:
 - a) Sales increase
 - b) Profits
 - c) Innovation
- 6- International consolidation of company image.

Source: Own elaboration.



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