Internationalization of Small and Medium Enterprises: Market and Entry Mode Selection in the Asian Market

The case of OleoTest®

Inês Margarida Russo Figueiredo

up201402220@fep.up.pt

Dissertation Proposal

Master in Management

Advised by

Professor Dr. Miguel José Ferros Pimentel Reis da Fonseca

2016

Biographical Note

Inês Margarida Russo Figueiredo was born in Almeirim on 9th June 1993.

Graduated in Economics from Nova School of Business and Economics in 2014, she joined the Faculty of Economics in Porto to do her Master degree in Management in the same year. During the academic period she had the opportunity to participate twice on the Erasmus + programme, first moving to Cologne, in Germany, during the second year of her bachelor and then moving to Warsaw, in Poland, during the first year of her master.

During the second year of the Master she had the opportunity to do a curricular internship at Castro, Pinto & Costa, Lda. This period represented an advantageous opportunity of learning by having a closer contact with the reality of Portuguese SMEs and at the same time acquiring knowledge regarding the internationalization process of those types of companies. This master dissertation comes in the sequence of the internship realized at CPC.

Acknowledgements

For the elaboration of this master dissertation there are several people who were fundamental for me and it would never be possible without them.

A special thank to my supervisor, Professor Miguel Fonseca, for all the help, for sharing his knowledge and support during the elaboration of this project. To Joana, my internship partner, for helping me during all the six months, for sharing the same concerns and doubts. To my family and friends for making this desire possible, particularly to my parents and brother that even being far were a fundamental support, for their advices and help. To all the people that somehow helped me during the elaboration of this dissertation. Lastly, to Castro, Pinto & Costa for the possibility of doing the internship, especially to all workers for being helpful and making me feel welcome in the firm.

Abstract

The market saturation, trade liberalization and easiness of market's access are some of the new challenges companies are currently facing. In this sense, internationalization is increasingly being considered an option which is no longer only available for large companies. Small and Medium Enterprises (SME) are investing more than never in their international expansion and consequently, in Portugal as in many other countries, these firms are playing particularly important roles in the economy of their home countries.

The present work results from a curricular internship developed at Castro, Pinto & Costa (CPC), a small Portuguese enterprise that was responsible for the development of OleoTest (OT): a cheap, quick and reliable test used in the control of cooking oil quality.

On the basis of the literature review, and after the analysis of the different internationalization models, it is made an international market selection in Asia followed by the recommendation of the best entry mode for CPC. The firm's expansion strategy selected the Asian region for entrance, since it is one of the most important and largest economic areas in the world and also a large consumer of vegetable oils. China was the elected market and exporting the most suitable entry process for the company.

Key-words: Internationalization, Small and Medium Enterprises, International Market Selection, Entry Mode Selection, Asian Market, China.

JEL-Codes: F60, F20, F23

Index

Biographical Note II

Acknowledgements III

Abstract IV

Abbreviations VIII

1. Introduction 1

2. Literature Review 4

2.1 Characterization of Small and Medium Enterprises 4

2.2 Definition of Internationalization 4

2.3 Motives to internationalize 5

2.4 Barriers to internationalization 6

2.5 Main Internationalization theories 7

2.5.1 International theories based on market's perspective 7

2.5.2 International theories based on firm's perspective 9

2.5.3 International theory based on entrepreneurship's perspective 12

2.6 International Market Selection 14

2.7 Entry Mode Selection 17

I. Exporting 18

II. Contractual Agreements 20

III. Cooperative Strategies 21

IV. Ownsership (Foreign Direct Investment) 22

2.8 Similar studies 24

2.9 Conclusions and critical analysis 24

3. The Case of OleoTest 26

3.1.Castro, Pinto & Costa, Lda 26

3.2 The Product: OleoTest 28

3.2.1 The process of deep-frying 29

3.2.2 Competitors 30

3.2.3 Clients 31

3.2.4 International legislation 31

3.2.5 OleoTest international presence 33

3.3 Application of the literature in CPC's case 33

3.4 The Internship 34
4. Methodology 36
Research Questions 36
Research Selection 36
Steps of the Study 37
5. OleoTest expansion to the Asian Market 39
5.1 CPC's current strategy 39
5.2 PEST Analysis 40
5.3 SWOT 42
5.4 Selection of target markets in Asia 43
5.4.1 First Step – country identification 44
5.4.2 Second Step – preliminary screening 45
5.4.3 Third Step – in depth screening 48
5.4.3.1 Analysis of existing regulation 48
5.4.3.2 Sector and Market numbers 49
5.4.3.3 Cultural Distance 49
5.4.4 Fourth Step - Final selection 50
5.5 The actual situation of cooking's oil consumption in China 51
5.6 Entry Mode Strategy 51
5.6.1 International fairs in China 52
5.6.2 Who are the possible partners? 53
5.6.3 Regions 54
6. Conclusions 55
7. References 57
Annexes 64
Annex I 64
Annex II 68
Annex III 67
Annex IV 68
Annex V 76

Index of Tables

Table 1: Resume of the main theories of Internationalization 13
Table 2: Primary factors influencing IMS 16
Table 3: Advantages and disadvantages of the different entry modes 22
Table 4: Comparison between non electronic & electronic devices 30
Table 5: List of countries with international regulation/recommendation 32
Table 6: Type and source of information 37
Table 7: The Ansoff matrix 39
Table 8: Asian countries GDP in 2014 (values and rankings) 44
Table 9: Selected countries 45
Table 10: Macroeconomic indicators 47
Table 11: Easiness of doing business 47
Table 12: Analysis of the existent regulation 48
Table 13: Sector analysis 49
Table 14: Hofstede model – differences between Portugal and the target country 50
Table 15: The decision matrix 50
Table 16: List of recommended international fairs in China for 2016 53
Table 17: Selected Chinese regions 54

Index of Figures

Figure 1: Root's model (1998) compared with Johanson's model (1997) for IMS 15
Figure 2: How can we use OleoTest? 28

Abbreviations

B2B – Business to Business

B2C – Business to Consumer

CEO – Chief Executive Office

CPC – Castro Pinto & Costa, Lda.

CFDA – China Food and Drug Administration

EMS – Entry Mode Selection

FDI- Foreign Direct Investment

FEP – Faculdade de Economia e Gestão

FFA - Free Fatty Acids

GDP – Gross Domestic Product

HORECA – Hotels, Restaurants, and Catering

IMS – International Market Selection

MNE – Multinational Enterprise

OT- OleoTest

SME – Small and Medium Enterprise

TPM – Total Polar Materials

1. Introduction

Following the trend of world globalization, companies are increasing the demand for international markets and small and medium enterprises (SME) are no exception. Globalization has been described as the process of making possible the integration of economies and societies all over the world, liberalizing the global market, reducing entry barriers and obstacles that prevent foreign investments (Lee, Lee et al. 2015). Smaller companies are going international in an earlier phase, looking not just for growth but also for decreasing the risk of competing only domestically (Fahy 2002).

SME are defined in the European Union recommendation 2003/361 and are dependent on the staff headcount and in the balance sheet total or turnover (European Commission 2003). In Portugal as in other countries, SME have an increasing importance and impact in the country's economy especially due to their importance in the stabilization of the balance of payments. Indeed the value of exports of these firms already represent 40% of the business volume created in all the small companies, however the number of Portuguese exporting small firms has been slightly decreasing and in 2014 only 13% of all SME were selling outside the domestic market (Zurich 2014).

Although, for many decades the main focus of internationalization theories had been on Multinational Enterprises (MNE). The size of these firms was seen for a longtime as an advantage to overcome internationalization barriers. However, there are many other obstacles for companies to overcome in the process of internationalizing: capacity, financial and resources' constrains are some of the examples (Stinchcombe and March 1965, Storey 1994). The existence of several theories trying to explain the reasons and the process of going international proves the importance and pertinence of this operation.

The current work is focused on Castro, Pinto & Costa (CPC), a Portuguese company competing in the food safety industry. Divided in three different sectors of activity - laboratory, auditing and products - the focus of the work is on the internationalization of the product OleoTest (OT). Developed by CPC, it is currently the leading brand in the Portuguese market for testing the cooking oil quality.

The Portuguese legislation, as in other countries, limits the percentage of polar components (which are formed after heating the cooking oil) present in the cooking's

oil, a measure that can be done using OT. The main advantages of OT when compared to other competitors are essentially the price, easiness of use and reliability.

The application of the case of OT comes in the sequence of a curricular internship realized at CPC during six months. Internships act as win-win situations for students, firms and universities allowing an improved sharing of knowledge between parts (Coco 2000). For students, internships can work as a platform to have access to full time positions or to be a motivator to follow a career in the area (Knouse 2008). Universities benefit from internships as they allow to test the efficacy of classroom learning and also allow the creation of useful synergies as for example the promotion of guest lecturers (Coco 2000). For firms, internships represent an increase in the available resources without spending high amounts of money nor a commitment with a new employee (Harris and Zhao 2004).

In 2006, CPC expanded to international markets selling OT in Spain. Being now present in 14 different countries and representing the foreign markets 25% of OleoTest's total profits, the firm wants to expand and enter the big and challenging Asian region.

What explains the choice of the Asian market? Besides the fact that it is where almost half of the world's population live, the economic importance of this region is growing, making it reconquer the relevance of past times (Tamaki 2013). Even though there is a general concern for health and being the fried meals not seen as healthy, there is also place for tradition, meaning that this type of cook will continue to be used.

The research questions that this project tries to answer are: What is the best country for CPC to enter in Asia? What is the best entry mode to enter the selected market?

There are several factors affecting and influencing the international selection and the right entry mode making this decision fundamental for the success of the company (Musso and Francioni 2014). So, the purpose of this report is to apply the knowledge in internationalization to recommend a market and an entry mode strategy for the expansion in Asia. By applying one of the most pertinent models for international market selection (Johanson, 1997), China is selected from the overall 36 Asian countries.

Besides this section, the present report is structured as follows: Chapter 2 includes mainly a literature review of internationalization, international market selection, and entry mode selection. Chapter 3 focuses in more detail on CPC and OT, its main clients and competitors, international legislation and overseas activity, and the internship realized at the company. Chapter 4 describes the methodology used in this project as well as the main sources of information utilized. Chapter 5 starts with a general analysis of CPC strategy (using Ansoff Matrix), a PEST analysis for Asian markets and a SWOT analysis as a compiling of the principal opportunities and threats of CPC. It continues with the appliance of Johanson's model for the selection of a market to enter among the 36 Asian countries and also the best entry modes, considering the specificities of the company and the market. The last chapter presents the main conclusions of this project.

2. Literature Review

With the objective of framing theoretically the internationalization of SME, this chapter is divided in nine parts. The first defines what a small and medium company is. Then the following sections analyze what is internationalization, as well as its main motives and barriers. In section 5, there are listed and explained the main internationalization theories and their properties. Sections 6 and 7 examine some of the most important decisions for the firm: international market selection and entry mode selection. Section 8 briefly refers some studies similar to this case and, lastly, section 9 concludes with a critical analysis of the literature.

2.1 Characterization of Small and Medium Enterprises

In the European Union, 99% of all firms are Small and Medium Enterprises, that account for 50% of the employment in the region (Doole and Lowe 2008). According to the European Union recommendation 2003/361, SMEs are those companies which fulfill certain criteria in terms of staff headcount and either turnover or balance sheet total. Thus, if an enterprise has less than 250 employees and an annual turnover or a balance sheet total not higher than €50M or €43M, respectively, it can be considered a SME. However, empirical studies across industries consider sales turnover as the optimal indicator to distinguishing between smaller and larger firms (Cavusgil 1976).

2.2 Definition of Internationalization

The process of company's internationalization is complex and multidimensional. Generally, the concept of corporate internationalization includes a whole range of foreign operations, going from simple trade transactions to highly advanced forms of a firm's participation in production activities (Welch and Luostarinen 1999)

Internationalization is defined as a process of business development in which a firm becomes increasingly involved in cross-borders activities (Calof and Beamish 1995). The literature provides many interpretations of that process (Knight 2004), suggesting that internationalization can be analyze from three different perspectives: a *dynamic method* referring to the process itself, a *static* process where firms' activities abroad are

related to various indicators and profiles which should provide the firm's degree of internationalization, and a *behavioral* process where corporate internationalization is seen through the behavior of a firm's management.

The internationalization process of SMEs is an area in which fairly limited attention has been obtained, as most of the references were related to larger firms and also because the activities of these firms were traditionally limited to the region of their location or to national limits (Pleitner 1997). However, the small firms are also affected by the same factors of globalization of the markets as the large firms are, forcing them to act and think globally and making their internationalization process as pertinent as for big companies.

2.3 Motives to internationalize

There are several reasons distinguished by the literature trying to explain the process of internationalization: different characteristics of the decision-maker; firm-specific and environmental factors or simply the different characteristics of each company (Katsikeas and Piercy 1993). Companies face different stimulus, either internal or external that are pointed as having great influence in the internationalization decisions (Tamer Cavusgil and Godiwalla 1982).

In 1993, Dunning suggested several motives for firms' internationalization which can be divided in several categories: market seeking, resource seeking, efficiency seeking and strategic resource seeking motives. *Market seeking* focus on aspects related with the demand. Decision makers in the firm recognize the importance of having access to specific foreign markets and consider necessary a direct presence there. In this context, firms that invest in a particular country or region with the objective to supply goods and services are called "market seekers".

Resource seeking firms are those investing abroad to acquire resources (Dunning, 1993), at a lower comparative cost, or simply something that does not exist in their domestic market. The search for cheaper and unskilled/semi-skilled labor is fundamental for the activity of the firm trying to minimize costs of production. Focusing on the *efficiency seeking*, Dunning (1993) mentioned the purpose of

structures' rationalization establishing investments to gain, for example, on economies of scale and scope, but also to diversify company's risks. Consequently, efficiency seeking allows gains from different factor endowments, cultures, institutional arrangements, and economic systems etc.

In relation to *strategic seeking resources*, firms look to their intangible assets: technologies, patents, knowledge, employees' skills, and strategic supplies which are essential for the firm to develop comparative advantages (Dunning, 1993). The focus on the development of strategic resources by companies supports their long-run strategic goals.

Freeman et al. (2006), in another hand, identified other variables that have influence in the internationalization process, particularly on SMEs. The small size of the domestic market, the owning of unique knowledge or technology, and different forms of relationships and alliances are some of the motives mentioned.

In 2013, AICEP also mentioned as main motives for firm's internationalization the increase of competitiveness, the possibility of growing, the possible improvement of financial performance, the reduction of the dependency on the domestic market and the possibility to be sustainable in the long-run.

2.4 Barriers to Internationalization

Regardless of the state of the internationalization process, it is consensual agreed that companies faces several barriers which, in accordance to the literature, can be grouped in three main groups. First, *management characteristics* emphasizing the existent knowledge of international business, international transactions experience, planning orientation or the existence or not of a strategic approach (Fletcher 2001). Second, *different characteristics of the organization* include the willingness to develop new products for foreign markets, the existence of technological advantages, and the willingness to research overseas markets. Third, the presence of *external impediments*, for example, competitors in overseas markets and the risk of entering foreign markets resultant from the lower level of knowledge of the market and how it operates, cost issues, lack of export training and government assistance (Fletcher 2001).

All of those barriers may vary in intensity depending on the internationalization level of the firm (Katsikeas and Morgan 1994).

2.5 Main Internationalization theories

The first researches made in this area were focused on multinational enterprises (MNE), considering that internationalization was a "luxury" only available for the main players (Saarenketo, Puumalainen et al. 2004) as well as SME were not even considered in the panorama of internationalization. The main differences between MNE and SME, as mentioned in the name, are the size and the international presence (Hutchinson, Quinn et al. 2006). MNE were big enough to overcome internal capacity constraints and to research and have the necessary knowledge about the markets where they were planning to enter. Only when SME started to play a significant role by boosting economic growth in countries with a higher deficit in the balance of payments, researchers started to pay more attention in the study of smaller firms.

Havnes (1994, cited in (Ahokangas 1998) argue that there are three different perspectives of looking to internationalization models: firm, market and entrepreneurship. The market perspective is mostly focus on the internationalization of larger companies (Dunning 1988). The firm perspective includes the stage models which present most of the internationalization theories of SME (Cavusgil and Naor 1987), while the number of studies based on entrepreneurship perspective is very limited (Cavusgil and Naor 1987).

2.5.1 International theories based on market's perspective

The Internationalization Theory is based on the concept that companies desire to develop their own internal markets and firms can consequently make it at a lower cost inside the company until the time when benefits equal costs of further internationalization (Buckley and Casson 1993). When internationalizing companies can benefit from vertical integration by bringing new operations and activities (earlier made by intermediate markets) under the control of the firm, especially when natural markets are imperfect (Mitja, Robert et al. 2006). Before going international there is a

process that must be made collecting and gathering information for the manager to select the best expansion path (Mitja, Robert et al. 2006).

An attempt to integrate internationalization factors is done in **the Eclectic Paradigm** (also called OLI Paradigm) which asserts the different ways of international production as well as the right selection of a country for foreign direct investment (FDI). This approach identifies three types of advantages coming from internationalization: ownership advantages, internalization advantages and location advantages (Dunning 1988, Dunning 2000). Ownership advantages are inherent to the firm´s resources and include factors as, for example, the background of the top management group which can have crucial influence in the survival and growing of the firm (Fischer and Reuber 2003). Besides the background, other studies tried to demonstrate that other characteristics of the CEO or the decision maker, like the age, can also be differentiator factors regarding international expansion of companies (Andersson, Gabrielsson et al. 2004).
Internalization advantages are related with gains from internalizing operations for exploiting ownership advantages as control over operations, and reduction of transaction costs. A firm will prefer FDI as greater are the benefits from internalizing the operations.
Location advantages result from productive and institutional factors present in the specific geographical new location (e.g. low-cost labor, lower price of raw materials, government incentives).

The **theory of Monopolistic Advantage** is based on the assumption that MNE have an exclusive source of supremacy over foreign companies in their markets resulting from ownership advantages that cannot be acquired by others (Hymer 1976). Furthermore, firms can take advantage of this benefit abroad having no additional costs than when exploiting that advantage in their domestic market, making local competitors unable to compete despite of their advantage of being in their own domestic market (Caves 1971). An example of this superior knowledge can be found in the form of the brand name, differentiated products, organizational talents, or patented technology (Hymer 1976).

2.5.2 International theories based on firm's perspective

The **Uppsala Internationalization Model** (U-model) is one of the stage models explaining internationalization as being an incremental learning process that occurs in a stepwise manner (Johanson and Vahlne 1977, Mitja, Robert et al. 2006). Companies start expanding to geographically closer markets and gradually move to those which are further. Cultural distance between home and host country is mentioned as being one of the variables influencing the learning process (Johanson and Vahlne 1977). There are different frameworks trying to explain factors of cultural dimension to proxy the physic-distance, contrasting with the indicators used in the U-model, which considers cultural differences as education levels in both countries, language and business practices (Oliveira and Teixeira 2011).

However, the model has been criticized by being deterministic (Reid 1981) but also by considering that firms would not have space to take any strategic decisions (Andersson 2000). The model neither explain the emergence of Born-Global (Knight 1996, Madsen and Servais 1997, Andersson and Wictor 2003), international new-ventures (McDougall, Covin et al. 1994), instant exporters (McAuley 1999) and global start-ups (Oviatt and McDougall 1994) firms which are international since its birth meaning that companies did not follow the traditional path of internationalization proposed by the Nordic School. The model does not explain also why some firms go international and others stay in the domestic market. Nonetheless, the critics do not invalidate the criteria used in the model as being valid, but rather demonstrate the need to be complemented with different criteria (Fischer and Reuber 2003).

The **Model of Innovation-Related** (I-models) is another stage model where, as proposed by Rogers (1962 cited in (Gankema, Snuif et al. 2000), each step of internationalization process is an innovation for the firm. Having the main focus only on export development of SME (Reid 1981), authors conclude that the number of models is fixed, although the number of stages could vary between models. Three generic stages were identified as: pre-export stage, initial export stage, and advances exported stage.

The two stage models presented are mainly applied to the study of SME although they can also be used in larger firms.

The general conclusion of stage models is that internationalization has to be done in a stepwise manner in terms of activities and resources. Both stage models consider individual learning and top managers as relevant aspects to the understanding of the firm's international behavior (Andersson 2000).

Seen as an evolution of the Uppsala model concept, some researchers started to study the process in terms of **Network Perspective** (Johanson and Vahlne 2009). Firm's network can influence partners and transmit knowledge relative with the process and the choice of the entry mode in foreign markets. In this context, the notion of internationalization is more connected to an interactive process between competitive advantages of the company and advantages from all the other members of the network where the firm is inserted, and the sum of all the advantages plus the localization advantages of countries. Thus, the network theory gives special attention to cognitive and social links formed between the ones who act and are involved in business relations (Björkman and Forsgren 2000), emphasizing the importance for companies to invest in new networks to the firm.

However, if analyzing the relationship between companies as networks, one possible argument would be that firms would go international, specially firms with services, production, and distribution when their main partners (networks) would also go. There is a strong dependence on each other (Mitja, Robert et al. 2006) meaning that it is not an entirely decision of the firm but rather a consequence of belonging to a certain network.

Moreover, there is a great diversity of definitions for network that have to be mention. A business network is a group of two or more firms connected and where the relations take place via commercial firms being contextualized by collective actors (Chetty and Holm 2000). There are several actors as competitors, providers, consumers, distributors and the government, being connected through direct and indirect relationships. In that matter, it is possible to define business networks as "sets of international business relationships, in which each exchange relation is between businesses firms conceptualized as collective actors" (Johanson and Vahlne 2003). Contrarily, it is important to highlight that all companies are involved in some type of group relationships with clients, suppliers and even competitors being all part of a wide social and business network.

This theory helped on the understanding of the internationalization process by demonstrating that there are specific advantages not just for the company but also for the network. In this way, the model differentiates four particular situations: a *low or high* degree of internationalization of the firm, and *low or high* degree of internationalization of the production network (Hollensen 2007).

The network model provides different solutions of internationalization pattern for each type of scenario. In the first case, where the company and network enjoy limited international participation, the company starting to develop foreign markets is classified as an *early starter*. The second scenario describes the case of a lonely international firm reaching a higher internationalization degree, and already being involved in a set of relationships with foreign organizations/markets. By consequence, the firm has earned knowledge and resources to face different cultural and institutional environments when comparing to the home market, but the network continues to be less internationalized. In the third alternative, the late starter serves as an example of a network with a high level of internationalization, contrasting with a lower level in the firm. In this particular case, one solution for the firm to increase the internationalization process is through their customers or complementary suppliers. The last alternative presents the case of *international among others*, suggesting that the firm has the chance to develop global activities using the position and knowledge from the network, and also using the international knowledge accumulated in order to simplify their entry in new networks (to extend their activities in existing markets, and to enter into new ones) (Hollensen 2007).

Some of the theoretical problems related to networks include variables like control, trust, and resources. However, most of those researches seem to ignore the strategic position and influence of individuals, for example entrepreneurs, in the internationalization process of SME (Mitja, Robert et al. 2006). Considering network to SME, it was also shown that small firms are able to trade and gain information with one another, using social network, which leads them to duplicate and accelerate export entry. (Mitja, Robert et al. 2006). The network theory is able to provide the context for international activities, despite the fact that is necessary a further review on the development strategies and resources of the firm.

Resource-Based Approach is based on existing models of internationalization (Mitja, Robert et al. 2006), particularly on the assumption that the main purpose of the firm is to develop internal resources and capabilities that should be adapted to the specific market to create a feasible competitive advantage (Andersen and Kheam 1998). Ownership resources have an important role in the strategy of internationalization, being possible to affirm that competitive advantage may come from variables as the number of employees, technology of the product, share of total sales or perceived firm strengths (Cavusgil and Naor 1987). As the heterogeneity tendency of small firms and the operating environment are several difficulties when defining the critical resources needed for internationalization, different authors propose other characteristics for these resources. For example, according to (Barney 1991) they should be valuable, rare, imperfectly imitable, and not substitutable (VRIO). However, there are yet few researches providing examples of resource-based SME's internationalization, although it is proved that the resources capabilities have special impact on the method and mode of foreign market entry.

2.5.3 International theory based on entrepreneurship's perspective

The ultimate approach to SME's internationalization has a particular focus on the role of the entrepreneurship (McDougall and Oviatt 2000). The definition of **International Entrepreneurship** suggests a new are of search as "the combination of innovative, risk-seeking behavior that crosses national borders and is intended to create value in organization" (McDougall and Oviatt 2000).

Entrepreneurs are the agent of change with specific and distinctive characteristics facilitating the exploitation of new opportunities and having different positions dealing with the risk (Andersson 2000). This theory defends that not all the entrepreneurs process the same competencies and only few are able to combine resources in the domestic marketplace as a basis for internationalization (Mitja, Robert et al. 2006).

For that reason, this theory is sustained on entrepreneur's competencies and knowledge as a source of advantage, being them the main responsible for the company's internationalization process.

In conclusion, SME's internationalization will remain in the future one of the most important and challenging areas of research, due to the globalization phenomena and the important role that the internationalization of small firms is playing in the world's economy. The Table 1 below presents a sum-up of the main internationalization theories, that have to be adapted in order to follow this natural evolution.

Table 1: Resume of the main theories of Internationalization

Theory	Definition		Authors
Internationalization Theory	The firm wants to achieve its own internal markets. Internationalization can involve vertical integration.		Buckley and Casson (1993)
Eclectic Paradigm	Different forms of international production; explains country section. Identifies three variable forces: ownership, location and internalization.		Dunning (1988, 2000)
Monopolistic Advantage	Internationalization as consequence of the monopolistic advantage (no additional costs).		Hymer (1976)
Stage Models	**Uppsala Model**	Starting internationalization to countries geographically closer. Evolutionary process of internationalization (stepwise manner).	Johanson and Vahnle (1977, 2009)
	Innovation Related	Internationalization as a set of evolutionary steps providing a consequent learning process.	Gankema et al. (2000)
The Network Approach	Internationalization resulting from multilateral relationships (business and social network).		Hollensen (2007), Johanson and Vahlne (2009);
Resource-Based Approach	Internationalization due to competitive advantage of the firm related to competences and resources.		Barney (1991), Mitja, Robert et al. (2006)
International Entrepreneurship	Internationalization based on the decision makers (entrepreneurs) and their experience.		McDougall et al. (1994), Andersson (2000)

Source: *Own Elaboration*

2.6 International Market Selection (IMS)

One of the central decisions for a firm during its internationalization process is the complex topic of market selection (Root 1998, Papadopoulos, Chen et al. 2002). However, it is surprising that given the importance of the theme, there is such a limited research available (Brouthers and Nakos 2005).

The International Market Selection (IMS) was conceived as a set of a rational decision process lead by the company. This decision-making perspective of IMS, together with the diversity and the large number of foreign markets, provides theoretical foundation trying to turn all the international market process selection as efficient and effective as possible. In this process, low-cost secondary sources of comparative information about countries, usually macro indicators, would offer the information for eliminating possible countries for deeper analysis.

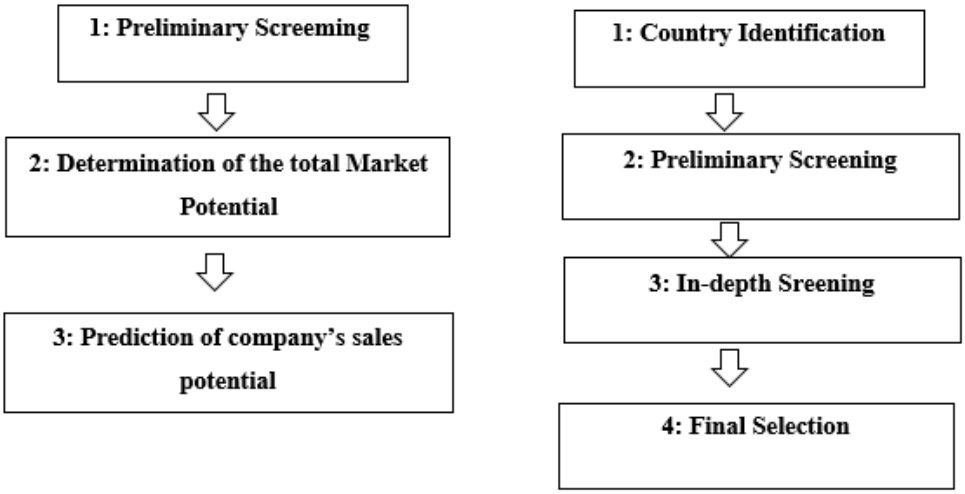
There are two main traditional approaches considered in the IMS: a systematic and a non-systematic approach (Papadopoulos and Denis 1988). In the systematic approach, the firm uses a formalized decision process, including different statistical methods, in order to analyze the potential of target markets. There were suggested various models about systematic IMS differing basically on the number and type of stages in which the process of market selection was constructed (Koch 2001). The importance of systematic approach for the selection of foreign markets is emphasized by various researchers who created different selection models (Douglas, Craig & Keegan, 1982; Johanson, 1997; Root 1998; Rahman, 2003). The major differences between these models are the number and type of steps composing the process (Koch 2001).

Two of the most recognized IMS models are Root's model (1987, 1998) and Johanson's model (1997). Root (1998) defined a model where the market selection is a three step process composed by: i) a preliminary screening, ii) an estimation of the industry market potential, and iii) an estimation of company sales potential. The first step is carried out using simple quantitative variables to quickly and cheaply diminish the total number of markets to be covered in the following phase, or simply by using some predefined criteria set internally by the company. The goal of the second step is to determine the total market potential in the remaining markets, while in the final step it is possible to do a prediction of firm's sales potential (sales volume forecasting, projected

operational costs) along with other variables as marketing costs needed to determine the forecasted level of sales.

In another hand, Johanson's model developed in 1997 is composed by four steps. The main differences to the model described above are related with the existence of two preliminary screening stages, more concretely the country identification and the preliminary screening. Johanson's third step resembles Root's second step, while the final stage can be compared in both models. Johanson's model adds the observation of other variables as geographic distance which includes the influence of cultural distance in the decision process. Some examples of cultural distance can be noticed in the differences in languages, cultures, political systems, and level of industrial development (Musso and Francioni 2012). Cultural distance is frequently mentioned in the literature as being one of the most significant predictors for IMS (Johanson and Vahlne 1977).

Figure 1: Root's model (1998) compared with Johanson's model (1997) for IMS



Source: *Fabio Musso & Barbara Francioni 2012*

In the analysis of Root and Johanson's models, it has been proved that firms who adopt a systematic approach normally check out several factors before the selection of international markets (Musso and Francioni 2012). Those factors can be divided into three different groups: firm-specific factors, host country factors and entry barriers, presented in Table 2.

Table 2: Primary factors influencing IMS

Categories	Factors Influencing IMS
Firm Specific Factors	Type of product
	Management characteristics
	Firm size
	International experience
Host Country Factors	Country attractiveness
	Market attractiveness
	Marketing infrastructure
	Competition
Entry Barriers	Country risk
	Physical distance
	Geographic distance

Source: *Fabio Musso & Barbara Francioni 2012*

In fact, various empirical studies showed that SMEs typically do not adopt systematic approaches for the market selection since entry decisions are usually made by "no rational" reasons that apparently ignore the optimizing logic of the market (Musso and Francioni 2012). Kothary (1978) proved that 83% of companies from his sample of SME do not did any search before entering their first international market (Papadopoulos and Denis 1988). The inherent complexity of the knowledge required means that few decision makers have enough knowledge to carry out a systematic market selection process (Papadopoulos, Martín Martín et al. 2011). Much of the limitations faced by companies are related with limited amount of time for the decision making, the limited amount of information available, and some cognitive limitation.

When comparing SME to multinational enterprises, findings suggested that smaller companies commonly do not successfully develop administrative policies and procedures, and have a tendency for the adoption of opportunistic, relatively to systematic strategic decisions (Van Hoorn 1979).

So, the non-systematic approach is rather used by the majority of the small firms in the IMS decision process. By using "physical distance" variables such as the language, the

level of industry development, and the political system, enterprises usually selected those markets which are geographically closer and offer a higher level of similarities, what suggests that there is a higher level of knowledge of the "neighbors" (Papadopoulos and Denis 1988). However, one of the principal problems is the pre-exclusion of some potential markets if this criteria is followed, simply because they are geographically too far.

2.7 Entry Mode Selection

The selection of an entry mode by SME has been considered, together with IMS, some of the most important investigation areas with regard to the internationalization of firms (Burgel and Murray 2000).

However, in this decision there are other important aspects that need to be considered, as several studies proved the importance of internal and external factors affecting entry mode decisions (Böttner and Hollensen 2011). Among the external factors it is possible to distinguish:

Social and cultural Distance: the diversity in values and norms between home and destination country (Böttner and Hollensen 2011). The rise on social and cultural distance is proved to lead to the choice of an entry mode with a lower control level (Root 1998). In the case of cultural proximity there is a lower level of perceived risk (Wrona and Trąpczyński 2012).

Market Potential: high investment modes are positively correlated with the size and growth of a country (Suseno and Ratten 2007).

Trade Barriers: if trade barriers are removed or decreased, more firms will consider internationalization as a solution (Suseno and Ratten 2007).

Competition Intensity: if the competitive market conditions are intensive in a specific country, small companies have difficulties to expand into these markets and tend to choose low investment alternatives (Suseno and Ratten 2007).

Business Networks: by setting networks or alliances, SME can diminish the lack of resources' problem and also be useful for high investment entry modes (Suseno and Ratten 2007).

Political and Economical Risk: the political and economic situation of a country directly affects the risk of investing in that specific market being less risky to invest in

countries with a favorable government policies and economic stability (Dunning 1988, Suseno and Ratten 2007).

In another hand, there are internal factors to the company that also have influence in the entry mode selection:

Control: different entry strategies correspond to distinct control levels. Modes requiring larger investments offer higher control over international activities (Sanchez-Peinado, Pla-Barber et al. 2007).

Flexibility: the capability of a company to identify and react to market changes (Shimizu, Hitt et al. 2004). More flexible companies tend to choose higher investment and riskier options (Shimizu, Hitt et al. 2004).

Risk: companies are willing to accept different risk levels depending on its strategic options, financial situation, and the competitive landscape (Koch 2001).

Product Complexity: as higher is the product's complexity, higher is its tendency to acquire resources or invest directly in foreign markets (McDougall, Oviatt et al. 2003)

International Experience: accumulated international experience in a company can help reducing costs and uncertainties when moving to a new market (Hollensen, Boyd et al. 2011).

The factors described above have influence in the choice of entry modes. There are four entry mode strategies – exporting, contractual agreements, strategic alliances and direct foreign investment – which are explained below in more detail as well as its main advantages and disadvantages.

I. Exporting

This strategy is usually the first option for firms when starting the internationalization process (Kogut and Chang 1996). This entry mode is usually applied in SMEs' internationalization since these firms commonly possess lack of resources, especially in terms of financial assets and this strategy requires less investment when comparing to others (Dalli 1995). By exporting SMEs have access to foreign markets, with no need

for big capital investment, offering the opportunity to gain valuable international experience (Root 1998).
There are different types of exporting varying in the level of control, investment and commitment that are associated to them.

Direct exporting: the company sells directly to the foreign market through agents or distributors. The main advantages of this strategy are the high level of control accomplished over the marketing plan in terms of distribution, pricing, promotion, a more extended and faster feedback from the foreign market, and a superior protection of the company's intangible properties (trademarks, patents, and goodwill). Most of these advantages are only accomplish if the exporting company assumes the responsibility for the international marketing (Root 1998).
The major problem arising from the choice of direct exporting is linked with the existence of conflicts between the exporting enterprise and the foreign agents or distributors (Root 1998).

Indirect Exporting: the main distinction between direct and indirect export is related to the existence (or not) of an independent export agency in the home country. This strategy is a good solution for enterprises which are entering foreign markets for the first time since it is less costly than direct exporting and also transfers risks to the export agency (Root 1998).
However, due to the existence of the local agency, manufacturers have very little power meaning that it is difficult to have an active role and control in the international activities and consequently the knowledge acquired from international activities is reduced (Root 1998).

Internet: according to Canteora (2013), this is an entry strategy that requires very low effort and should be considered as valid as the other due to the role that internet is playing in today's business around the world.

Indeed, although this entry mode involves less risk in terms of capital investment, when firm's assets are proprietary (such as brand equity, trade-marks, or patents), exporting

can expose a firm to greater risks in terms of distributor opportunism or asset appropriation and devaluation.

II. Contractual Agreements

These strategies privilege the transference of expertise instead of equity (Cateora, Gilly et al. 2013) and include two different types of agreements:

Licensing: the licensor transfers to the licensee the right to use the property of the company (e.g. trademarks, rights and know-how). The amount paid to the transference is fixed and agreements have a defined period of time, which is one of the disadvantages of this strategy.

Advantages of licensing are especially relevant in the presence of import barriers that increase costs (tariffs) or limit the quantity (quotas) to the foreign market since manufacturer transfers intangible assets and services which are not under subject to restrictions.

A low or uncertain sales potential in the target market and lower political risks increase the attractiveness of licensing compared to equity investments or direct export, overcoming the problem of high transportation costs.

However, a firm should not use licensing strategy if it does not possess technology or trademarks that are attractive to potential foreign clients.

Franchising: an entry strategy where the franchisor licenses a business system and other rights to another firm or person - the franchisee. The franchisee competes under the franchisor's trade name that sets policies and procedures for the franchisee to act in accordance with. In return, the franchisor receives fees, running royalties, and other compensations from the franchisee (Root 1998).

The main advantages of franchising are connected with the rapid expansion into foreign markets with low capital outlays, standardized marketing and low political risk (Root 1998).

In contrary, some of the disadvantages are the limited franchisor's profit, absence of full control over the franchisee's actions, the possibility of creating new competitors, and the arise of government's restrictions imposed to franchise agreements (Root 1998).

III. Cooperative Strategies

There is a large number of cases where two or more firms might work together to exploit new opportunities. Between the methods adopted, there are joint ventures and strategic alliances in each two firms own a stake in each other's business.

Joint venture: the ownership's sharing between an international company and an enterprise in the target country with local private or public interests. This entry method is based on the belief that there is a higher level of expertise and resources when two or more firms cooperate to the joint company (Doole and Lowe 2008).

When comparing with licensing, in this strategy each firm takes an equity stake in the new company. Some of the advantages include the sharing of costs and risks by the two companies, as well as management skills or different technologies, and the sharing of knowledge particularly related with local markets (Doole and Lowe 2008).

There are, nevertheless, some significant disadvantages associated with joint ventures, as the distinct aims and objectives of the participating firms which can lead to disagreements over the strategies to follow. There is also the aspect of motivation that sometimes is different between partners. The substantial investment of capital and management is high making joint venture eligible in the case of extending firms' capabilities rather than just exploit existing advantages (Doole and Lowe 2008).

Strategic alliances: Bronder & Pritzl (1992) defined strategic alliances as a method where at least two companies combine value chain activities with the objective of creating competitive advantage, as for example technology swaps, R&D transferences, distribution relationships, marketing relations, and cross licensing.

One of the most significant aspects of this type of alliances is the involvement of partners that might be competitors, a situation that can cause problems for the participants who should be careful about sharing information with their partners (Doole and Lowe 2008).

The adoption of this strategy is driven by factors as resources' scarcity, pace innovation and market diffusion, high R&D costs, companies' concentration in mature industries, government partnerships and market access (Doole and Lowe 2008).

As in all strategies, the success of strategic alliances depends on a efficient management, great planning, adequate research, accountability and monitoring.
Its limitations are essentially related with awareness of the dangerous of becoming drawn into activities for which companies are not designed. (Doole and Lowe 2008).

IV. Ownership (Foreign Direct Investment)

The foreign direct investment (FDI) is an entry mode where firms invest directly overseas. In this way, it is a high investment and consequently high risk/return alternative that also brings a high level of control to the investing company. An ownership option enables firms to minimize transaction-related risks through internalizing markets for proprietary asset exchange (Hennart 1982, Rugman 1982). Aside from the benefits gained from the internalization of proprietary asset exchange across international borders, FDI in diversified locations enables a firm to leverage various location-based advantages (Kogut 1985), such as a competitively priced labor force, to have access to critical resources and to develop new knowledge and capabilities that enhance its international competitiveness (Shan and Song 1997). While FDI holds these potential benefits, it requires a greater level of resource commitment in foreign countries when compared to exporting and it is more difficult to reverse. It also represents a less flexible mode due to investment hazards associated with political instability and fluctuating market conditions in host countries.

Table 3 contains a summary of the main advantages and disadvantages of each entry mode described in this section.

Table 3: Advantages and Disadvantages of the different entry modes

Entry Mode Strategy		Advantages	Disadvantages
Exporting	**Direct Exporting**	• Low risk • Knowledge accumulation	• More costly
	Indirect Exporting	• Very reduced risk • Less costly than direct exporting	• No control over marketing • No knowledge acquired from foreign markets
	Internet	• Low risk and low cost	• Transportation and security costs

Entry Mode Strategy		Advantages	Disadvantages
Contractual Agreements	**Licensing**	• Lower political risks	• Fixed licensee fee
	Franchising	• Quick expansion into a foreign market • Low capital expenses • Standardized marketing • Highly motivated franchisees • Low political risk	• Limitation on the franchisor's profit • Lack of full control over the franchisee's operations • The possible creation of competitors • The restrictions imposed by governments on the terms of the franchise agreements
Cooperative Strategies	**Joint Ventures**	• Sharing costs and risks • Knowledge sharing (management skills, target market)	• Distinct aims and objectives from the two firms leading to disagreements in the company's strategy • Different motivations • Great capital and management investment
	Strategic Alliances	• Access to partners know-how • Rapid expansion to foreign markets	• Possibility of sharing information with a competitor
Ownership	**Direct Foreign Investment**	• High level of control to the investing company • The leverage of various location-based advantages: - competitively priced labor force - access to critical resources - development of new knowledge and capabilities that enhance international competitiveness	• High investment and high risk • Greater level of resource commitment • Less flexible to political risks and fluctuating market conditions. • High transaction and coordination costs

***Source**: Own elaboration*

Concerning the EMS process, a considerable part of SMEs adopt a passive behavior, meaning that entry modes are not actively chosen by companies, but rather result as a consequence of agreements with foreign partners (in the majority of the situations local distributors and importers). In this manner, companies do not have an actual choice and the used entry mode results from a passive response to an external incentive (Musso and Francioni 2014).
Theory propose that the trade-offs between risks and returns are the base for choosing an international market entry mode.

2.8 Similar studies

There are some studies analyzing the selection of international markets or the entry mode selection conducted by SMEs in their internationalization process. However, there are few centering the attention on the Asian region reinforcing the importance of this work, together with the specificity of the company and the product under analysis.
Musso and Francioni (2014) analyzed together international market selection and entry mode using a sample of 221 Italian firms proving that most of them adopted a non-systematic IMS approach being in accordance with most of the literature in the area and, with regard to EMS, the passive behavior tends to prevail. It also proved that the two decisions are usually performed at the same time without following any specific criteria.
In 2013, Céline Gaultier developed a project analyzing the behavior of French wine companies in entering the ASEAN markets, concluding that due to their small size and limited resources SME do not have much choice regarding the choice of the entry mode strategies.

2.9 Conclusions and critical analysis

The literature proves the importance of looking at the main motivations of a firm to internationalize and what are the main barriers in the target market they want to reach. Different theories and models try to explain the internationalization process looking at different forces. In the decision for international market selection firms can opt between a systematic approach, following a rational decision process, or a non-systematic approach where decision is simply based on instinct or company's strategy. In the case

of entry method, the literature suggests that different strategies will have different impacts on firms control level, investments and costs, being the main entry options exporting, contractual agreements, strategic cooperation and ownership.

The main critics to the literature are related with the appliance to limited and very particular cases. Furthermore, the existing one usually uses samples geographically limited to only one country or limited to a particular industry, being this one of the main weaknesses.

Not mentioning reasons behind the choice of systematic or non-systematic approaches by SMEs regarding to Entry Mode Selection can also be pointed as another limitation of the literature.

This project contributes to the knowledge of international expansion of SMEs by analyzing the particular case of a Portuguese Small and Medium firm and a very specific product, OleoTest, entering in one or more selected Asian countries and recommending the best entry mode.

3. The Case of OleoTest

The present section provides a more detailed explanation of the company Castro, Pinto & Costa (CPC), particularly describing the selected product for internationalization - OleoTest (OT). In this chapter, our aim is to provide a deeper knowledge of the history of the company, the different products available, and the path that the company has been following in order to provide helpful information when recommending international expansion.

The information presented was gathered through informal interviews with the CEO of the company – Eng.ª Inês de Castro (contained in *Annex I),* firm's internal information and independent researches through institutional websites.

In the end of this chapter, there is a resume of the internship realized, specially mentioning its main goals and the tasks realized.

3.1. Castro, Pinto & Costa, Lda.

The company was founded in 2000 by four students of the University of Minho. The absence of firms in the field of food safety and the incentive of professors were the main impulses for the creation of CPC, in such a way that still today the company maintains a close relationship with that university. Being present in the market for already 15 years, the company expanded its activities and had become a reference in businesses, being three times recognized as "PME Líder" in years 2010, 2011 and 2012.

CPC had to deal with several challenges since the moment of its creation: the lack of financial support, the scarcity of capital for investment and growth, and the inexperience on management. However, CPC always tries to maintain a strategy based on innovation and in stable growth, keeping as main differentiators the quality and innovation of products commercialized, as well as the services provided. Moreover, throughout these 15 years CPC accomplished multiple successful projects which were responsible for vitalizing the company.

The key product of CPC is OleoTest. Firstly launched in the market in 2003, OT has been described as a quick measuring test allowing users to control the quality of the frying oil, being their launch an important mark on the firm's life. OT is today the leading brand in the Portuguese market for the control of the quality of cooking oil.

Besides OT, the company has also launched a vast range of products, utensils and different equipment considered essential for industrial activities, as well for the HORECA (hotels, restaurants and cafes) sector.

Since 2007, CPC is settled in 'Zona Industrial da Maia', where it was possible to build their own IDI (investigation, development and innovation) lab, allowing the development of a settle of environmentally and hygiene-sanitary tests. In the same year, CPC achieved the Certification ISO 9001, a certification of quality management systems that has been renewed since then.

In 2015, on the occasion of the 15th anniversary of the brand, this firm concluded a process of rebranding, by launching a new image symbolizing the search for new innovation strategies and business modernization.

Nowadays, after being consistently established in the Portuguese market, especially with OleoTest, the firm wishes to continue the expansion to more international markets, moving to markets physically more distant as the Uppsala Model determines, after being successful in the markets where it is already competing.

CPC is a Portuguese SME operating with OT, an innovative product, in a Business-to-Business (B2B) environment and within an unexplored sector. All these particularities are determinant to the company which saw a good opportunity in the creation of an agreement for internships with the Faculty of Economics of University of Porto in order to develop a structured internationalization strategy.

CPC has three different business units, which complement each other: i) services of support to firms through consulting, auditing and professional training in terms of quality control and food safety; ii) a laboratory which provides a set of different services of investigation, development and innovation (IDI) and analytical control; and iii) a diverse list of products and equipment for the food quality sector.

Currently, CPC has nine employees divided through the different business units of the company. Two employees work only in the laboratory, one employee is responsible for products department and all the others are working in the area of services. However, all of the employees help when necessary in other areas, such as for example, once a month during the production of OT, when all them stop their work to help in the filling and

packaging process. CPC does not have a formal organizational structure neither an established hierarchy. Nowadays, only two of the four original founders are still working in the company, with responsibilities in the management area. Regarding international activities, the managers together with other employee dedicate some of their time to the process. However, all of the internationalization questions are done together with other functions.

3.2 The Product: OleoTest

OleoTest (OT) is an innovative test developed by CPC in year 2002. The firm saw an opportunity in the absence on the market of a quick and reliable test for controlling cooking oil's quality, as the existing methods were very demanding in terms of laboratory equipment and technical knowledge.

OT is a mixture of chemical reagents for the evaluation of Total Polar Materials (TPM), a compost formed during the frying process and that is one of the responsible for oil's degradation. The test in contact with a small sample of the oil will turn in a particular color, telling the user if the oil is safe or not to continue to use it.

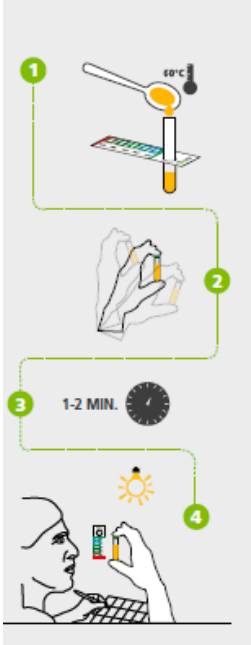


***Figure 2**: How can we use OleoTest?*

The test has a shelf life of 18 months and takes around 2 minutes to determine the amount of TPM present in the frying oil being possible to be used in different types of oils (palm, bean, and soya oil).

OT's chemical formula is unique and kept in secret between its developers. The product is an innovation in this segment of business, very hard to copy and successful, especially due to three distinctive features: easiness of use, reliability of results, and low cost.

3.2.1 The process of deep-frying

Fried food is consumed worldwide and has facing increasing popularity due to distinctive sensory properties as flavor, color, texture and palatability, which are greatly appreciated by consumers (Mlcek, Druzbikova et al. 2015).

The process of deep-fat frying is described as "a process of immersing food in hot oil with a contact among oil, air and food at a high temperature of 150ºC to 190ºC" (Choe and Min 2007) and it is a much appreciated cooking method since it is quick and provides characteristic smells and flavors to the food, being one of the oldest processes of food preparation used in kitchens all over the world (Varela, Bender et al. 1988).

However, there are a set of complex changes and reactions that can cause several degradation in compounds during the process (Fritsch 1981). The quality of used oil has a major influence on the quality of the final product. During the process of deep-fat frying, due to the moisture contained in food, atmospheric oxygen and high temperatures, several reactions can occur, such as hydrolysis, oxidation and polymerization (Choe and Min 2007). These reactions change the chemical and physical composition of the frying oil, leading to the creation of unwanted compounds. The main products of decomposition created during the frying process, and normally those that quick tests are able to measure are total polar materials, which are extremely harmful for health as they can cause a deterioration in the cardiovascular system and also contribute for the development of stomach cancer (Fernandes 2012). However, there are some tests that only measure the presence of free fatty acids (FFA) in the oil. Those components are also harmful but they represent only one part of the total compounds created, being this a less efficient measure. In some countries there is legislation for the quantities of TPM and FFA. Once TPM are present in a higher percentage in used frying oils, this is one of the most frequently used and accepted criteria for controlling the quality of frying oils (Chen, Chiu et al. 2013).

The official technique, ISO 8420:2002, *Animal and Vegetable fats and oils - Determination of content of polar compounds*, used to measure TPM in order to control oil quality, is complex, requires several hours, and should be developed in very specific and specialized laboratories with proper equipment (Chen, Chiu et al. 2013). For this

reason, the technique is not suited for small industry or sellers to use on their establishments (Chen, Chiu et al. 2013).

The problem has been noticed by different companies that developed rapid tests to control oil quality based either on chemical properties as the FFA, iodine value and the content of TPM, or based on physical characteristics as the color, for example.

3.2.2 Competitors

In the market of cooking oil quality control there are several products competing with OleoTest in two main categories of products: the electronic devices and the non-electronic tests. In the first segment,, electronic devices require larger initial investments (since their prices vary between 400€ to 700€) and also imply maintenance costs, as for example, calibration that should be done every year in order to guarantee the veracity of the results. Some of the disadvantages of electronic instruments are the need of source of energy to realize the test (battery or plug-in electricity), the possibility of contamination since tests are done immersing the device directly in the oil, the risk of break, and the necessity of cleaning the devices every time they are used.

The main advantages of non-electronic devices are the low price and the easiness of use for the same level of reliability. They cost on average 1€ per unit, what represent a more economic option for smaller companies that use a small number of tests,, and do not need any type of maintenance or any special storage conditions.

The Table 4 below presents a sum-up of the main advantages of non-electronic devices comparing with the electronic ones.

Table 4: Comparison between Non-Electronic & Electronic Devices

Non-Electronic Devices (including OT)	Electronic devices
Low Price (± 1€ test)	High Investment (± 600€ device)
No battery needed	Battery or be plug in
Possibility of storing samples	Registered only digitally

Source: *CPC internal documentation*

Considering the information collected during the internship period, it is possible to identify that the main competitors in the segment of electronic devices are Fom, Testo 270 and Vito.

In another hand, in the segment of non-electronic tests, where OleoTest is included, there are two types of tests (measuring the levels of TPM and FFA) and being the biggest competitor 3M Strips (FFA).

As it is described in *Annex II*, the majority of OT competitors belong to big multinational firms which have much more resources available highlighting the importance of a good strategy from CPC for its success.

3.2.3 Clients

The main clients of quick oil tests are companies or entities where the quality standard mentioned before need to be applied, as well as one of the main target groups is an activity where it is necessary to use and manipulate heated edible oils to cook or produce food products. OT can be used in the following sectors: *Food Industry; Laboratories/Companies specialized in food safety control, Catering firms, Restaurants and Cafes,* and *Official Inspectors for food safety control.*

As it is possible to conclude, OT is exclusively sold in the Business-to-Business (B2B) segment, and besides the obvious users of OT (food manufacturers), tests can be used by official control entities/agencies during legal inspections to kitchens or industries in order to monitor the quality of frying oils. In fact, the use of OT is very attractive to these agencies since the test itself allows the storage of the results for a long period of time, serving as a legal prove of the inspection.

3.2.4 International Legislation

The necessity of controlling the quality of the cooking oil is a question of public health and it has been creating a growing concern, especially due to serious consequences that they can have to human's health. All over the world there are countries legislating or just making recommendations for the control of cooking oil quality. The regulation / recommendation generally imposes legal limits to the quantity of Total Polar Materials or Free Fatty Acids (FFA), that in the majority of the cases cannot be higher than 25%

and/or could not exceed 3%, respectively. However, there is the need for a global harmonization in terms of parameters and limits. A study from the European commission (2013) regarding recycling cooking oil suggests that for TPM the value should be between 25% and 28%, and for FFA lower than 5%, while in Portugal the legislation requires a quantity of TPM lower than 25 %. The responsible agency for ensuring enforcement of the law in Portugal is ASAE (Autoridade de Segurança Alimentar e Económica) using OT for the control, once it allows keeping a proof of the results.

Table 5 below contains a list of the countries where there is legislation/ recommendation and the respective limits. Not surprisingly, the majority of the countries are European, since there are some official documents from the European Commission advising countries to do so.

Table 5: List of Countries with International Regulation/Recommendation

Country	Legislation	Recommendation	FFA	TPM
Austria	X			27%
Belgium	X		2,50%	25%
Brazil		X	0,90%	25%
Canada		X		24%
France	X			25%
Germany		X		27%
Hungary		X		30%
India	X		0,25%	
Italy	X			25%
Netherlands	X			27%
Panama	X		3%	24%
Poland	X			25%
Portugal	X			25%
Spain	X			25%
Switzerland	X			27%

Source: *CPC internal information*

3.2.5 OleoTest International Presence

OleoTest was launched for the first time in the market in 2002 and rapidly CPC managers realized the potential of the product abroad, particularly in countries with legislation for the control of TPM.

In 2007, after CPC presence in the international fair Alimentária Barcelona, the company established an exclusivity partnership with Biomedal, the distributor agent responsible for OT in Spain. Later, and also after a meeting during an international fair, ALLA France contacted CPC in order to establish an exclusivity agreement to be OT agent in France.

The enlargement of CPC networks and the knowledge acquired from these negotiations revealed to be advantageous for CPC, allowing the firm to increase its internationalization. CPC's expansion in Europe continued with exclusivity contracts in Poland and Turkey but also in other European markets with no exclusivity contracts, as Austria, Italy, Belgium and Greece.

The total value of exports of OT in 2015 was 126 000€, representing 25% of the total volume of business of the company on that year, although the exports level slightly decreased when comparing to the previous year (-3.82%).

In the current year of 2016, the firm already expanded their presence to the United Arab Emirates, with a non-exclusivity agreement with Specifico.

Concluding, the company used the strategy of direct exporting in their international activities, despite of the main limitations associated to this entry mode like the limited control over promotion, price, and place. However, CPC does not require any type of report from their distributors neither receives substantial feedback from their international agents, what should be taken in account in future agreements.

3.3 Application of the literature in CPC's case

As it has been mentioned during this report and after analyzing the main internationalization theories, it is essential to examine how they can be applied to this firm. CPC´s strategy confirms in some extend the relation between reality and theory and its plan of action can be incorporated in the majority of the internationalization theories. At the beginning of their internationalization process, CPC opted to enter

firstly in Spain, which is the closest country geographically and culturally. This strategy is according with the Uppsala Model, which states that companies tend to expand firstly to countries which are more similar in order to reduce risks. CPC continued their internationalization in a stepwise manner, as it is also stated in stage models, meaning that the knowledge acquired during all the process of expansion overseas is essential to the penetration in new markets.

Another important theory that can be applied to CPC, explaining the motives for its internationalization, is the international network theory. By suggesting the importance of partners for a company who is internationalizing, the model can be applied to the entrance of the firm in South Africa, for example, which resulted from a previous international client who suggested a distributor there.

The international entrepreneur theory can be used for understanding the motivations behind the internationalization of CPC. The CEO of the company is the main responsible for the decision making process and her ambition is one of the main engines for CPC´s international expansion.

Lastly, the resource-based theory can also explain the internationalization of CPC, as the existence of a unique formula which is extremely difficult to imitate is a strong source of competitive advantage which proved to be essential for the expansion.

The analysis of links between theory and CPC's strategy is not only important to the understanding of the path followed in the past, but also to suggest an expansion for the future.

3.4 The Internship

The internship was developed in CPC's plant in Maia, for a period of six months, between October 2015 and March 2016. *"Internationalization of OleoTest to China"* was the theme and challenge purpose for the internship program, whose tasks were defined by the CEO, Eng.ª Inês de Castro.

There was already some work related with the expansion to the Chinese market, previously done by a FEP student also doing its internship in the company in the previous year. The CEO has been in China in 2014, where she had the possibility to meet with the responsible of CFDA (China Food and Drugs Administration), the

national agency in Shanghai responsible for food quality control. In that business trip, Eng.ª Inês de Castro also visited FHC China (Food & Hospitality Congress), one of the most important international fairs in the area of food, drinks, foodservice, and hospitality bringing some important contacts of possible future clients. Unfortunately, there were no further developments regarding the establishment of a contact for selling OT in China, being this the main objective of the internship together with the research development regarding the Chinese market.

In that sense, the following activities were developed and accomplished successfully:

- Creation of a database containing contacts of possible agents for OleoTest in China (national agencies quality control, hotels, catering companies, oil filtration companies, auditing companies, distributors of healthcare instruments, universities with hotel and restaurant courses)
- Contact by e-mail (*Annex III*) with identified companies and other firms that were already in CPC's database, as for example some of the contacts collected in the fair visited in 2014.
- Research and selection of the main international fairs realized in China in the alimentation area/food quality control, since the company plans to visit the country again to continue the negotiations with CFDA.

The internship period also included the participation on OT's production, during a month, and the preparation of orders as well as helping in other warehouse functions when necessary.

During the program, it was possible to apply some of the knowledge acquired during the university in real business context making this experience a great advantage for my future career. By having a closer contact with a real internationalization process it allowed the acquisition of significant know-how and awareness to the limitations that SME face mainly due to their size, financial and resource constraints.

The final objective of the internship was to help in the internationalization process entering the Chinese market by searching potential agents and legislation, as well as to contact with some entities responsible for quality control.

4. Methodology

This chapter briefly describes the methodological steps followed in this dissertation, starting with the presentation of the research questions. Then, the methodology chosen for the project is presented as well as the strategy adopted for information collection. Lastly, there is a list of the main phases followed in the project that allow answering the initial research problems.

The internationalization process is complex and risky, requiring a careful planning by firms. In this phase one of the most important parts is data collection from possible host countries. The aim of this project is to provide selection of an Asian market to enter and propose the best entry mode for CPC, more specifically the international expansion of the product OT, in order for the company to increase its international penetration.

Research Questions

The research questions that this project tries to answer are: *'What is the best country for CPC to enter in Asia? What is the best entry mode to enter the selected market?* In order to gather information to analyze possible solutions it was collected different type of data whose description is done later.

Research Selection

The research strategy of a dissertation is the approach of how the researcher will be able to answer the research questions. Saunders (Saunders, Saunders et al. 2011) prove that there are several strategies that can be adopted: experiments, surveys, case study, action research, ethnography and archival research.

For this dissertation, due to the characteristics of the information available, a qualitative methodology is going to be applied, in this case ethnography. The qualitative investigation came as an answer to the quantitative methods which were not possible to be applied in all the studies (Sousa and Baptista 2011) and uses data from interviews, direct observation and documental analysis. In this work data will be collected from all this three sources.

Since the present work is based on curricular internship realized in the company CPC, the trainee was in the position of participant observer. In this way, the student had the chance to have a closer contact with the reality of the firm and the product under

analysis making possible to identify company's problem and to suggest a set of feasible solutions / recommendations.

Steps of the Study

By using ethnography as the methodology, information collection assumes a fundamental role. In this project it is performed a research and analysis of internal and external secondary data, with the goals of selecting the best country in Asia for the entrance of CPC and suggesting the adequate entry mode.

The type and sources of information are listed in the table below.

Table 6: Type and Source of Information

Type of Information	Source of Information
Internal	Interview with CPC's CEO
	Internship Period (direct observation)
	Internal Documentation
External	World Bank, International Monetary Fund, The Hofstede Centre, OECD, Statista
	Institutional and information Websites

The selection process is done considering the following steps and criteria:

a) Analyze the actual situation of CPC and OT internally and externally (Ansoff matrix, PEST analysis, SWOT).

b) Appliance of the 4 step Johanson's model for international market selection. A first step selecting Asian countries based on GDP, a second step framing the remaining Asian markets in terms of attractiveness considering macroeconomic factors as GDP, economic growth, inflation rate, total population, easiness of doing business, market potential, and easiness of entry. The information is

obtained from sources such as the World Bank and the International Monetary Fund.

c) A selection of Asian countries based on different factors: consumption of vegetable oil, number of hotels, global food security index and cultural dimensions.
d) Decision matrix
e) Final market selection
f) Entry mode options
g) Final recommendations/conclusions

The final stage of the methodology includes the report preparation.

5. OleoTest expansion to the Asian Market

This chapter is divided in 6 sections in order to analyze and select the best country to enter and the best entry strategy for CPC in Asian market. Firstly, there is done an analysis of CPC strategy and position using frameworks as the Ansoff Matrix, PEST analysis and SWOT, allowing us to identify the main challenges and threats that OT is currently facing. After applying the four steps of Johanson's model, it is suggested the best international market for CPC´s expansion and the most suitable entry modes for CPC in China, as well as some considerations about this market.

The final goal of this section is to recommend a market and an entry mode strategy in the Asian Market to assure an increase in OT sales and a higher awareness for the necessity of controlling the cooking oil quality.

5.1 CPC's Current Strategy

After all the knowledge of CPC and its product OT, it is important to understand the actual and desirable position of the firm.

Considering that the main problem that CPC is facing is market saturation of the Portuguese market, with the help of the Ansoff matrix is possible to identify that the company has two options: look for new markets to sell the same product (market development) or look for new markets with new products (diversification). Due to the resources constraints, the best solution to the firm is to continue the market expansion of the same products, particularly OT, into new markets.

Table 7: The Ansoff Matrix

		Products & Services	
		Existing	**New**
Markets	**New**	Market Development	Diversification
	Existing	Market Penetration	Product Development

Source: Business Dictionary

5.2 PEST Analysis

One of the most useful frameworks helping companies to have a first impression of the main factors affecting target markets is PEST. By looking at political, economic, social-cultural and technological aspects of certain regions or markets, firms have a first perception of the situation and general attractiveness. In this specific case the analysis is performed for the Asian region.

Political Factors

- Rapid changes in political leaderships in several Asian countries (e.g. Philippines, Thailand and Indonesia).
- Political systems can vary from democratic (e.g. India and Indonesia) with multiple centers of power, none of which is powerful enough to completely control the decision making process, to totalitarianism (e.g. Myanmar and Laos) where the political power is highly concentrated in small elite groups.
- China, for example, is a mixture of capitalism, where private ownership of business enterprises is encouraged, and socialism, where public ownership of a business is common.
- Political instability in some regions has a crucial negative effect on foreign investment (e.g. few foreign investors dare to invest in Indonesia right now).
- Corruption is still rife in many Asian countries.
- The existence of closed economies for change between partners (e.g. ASEAN formed in 1967).
- China entered WTO in 2001 and had a profound effect on other Asian economies.

Economic Factors

- About 60% of the world's population lives in this region, making it a desirable market to enter.
- Very different stages of development represent threats and opportunities ranging from underdeveloped nations (e.g. Laos and Myanmar), developing nations (e.g. Malaysia), newly industrialized economies (e.g. Singapore and Taiwan) and fully developed nations (e.g. Japan).

- Asian region has some of the most successful economies in the world with constant GDP growth rates between 7%-8% per year (e.g. South Korea, Taiwan, Hong Kong and Singapore).
- Each Asian market has its own currency.
- Governments impose various exchange restrictions to control their limited supplies of foreign exchange, as for example, fixing the exchange rate by the government.
- Currency exchange rates can be greatly affected by political changes (e.g. Indonesian rupiah changes substantially with each major political development).

Socio-Cultural Factors

- Asian region is completely different from Europe, being extremely important to understand diversity of cultures as it will influence needs and business practices.
- Japanese, for example, favor Japanese made products.
- The demand for goods and services from Asian governments is usually directed to local companies.
- Product features, packaging and advertising strategies must be adapted and sensitive to Asian cultural habits.
- Business negotiations involve individuals from different cultural backgrounds, and misunderstandings can arise from lack of knowledge of those differences.
- The main elements of culture which have impact on marketing are religion, values and attitudes, language (verbal and non-verbal), names and customs, manners.
- China and Japan wealth dominates most of the Asia, being important to notice some of their negotiation principles: they are tough negotiators, they are relation oriented, they have larger negotiation teams, they do not like detailed and restrictive contracts, Chinese have a more hierarchical approach in decision making whereas Japanese are more consensus seeking.

Technological Factors

- IT and communication infrastructure advance at different rates in different countries and even inside the same country.

- Singapore is highly developed in the IT and communications infrastructure, but India is the IT capital of Asia, yet barely half of the population own home computers.
- Product and process technology change is also modifying the competitive environment of many Asian countries.

In conclusion, the Asian region is very heterogeneous, representing at the same time a set of threats and opportunities, and CPC should be aware of the existence of big cultural differences in order to avoid misunderstandings.

5.3 SWOT

Considering all the frameworks analyzed before and the characteristics of the company and OT, a SWOT analysis helps in the identification of factors analyzing internally strengths and weaknesses and externally opportunities and threats.

Strengths

- Characteristics of the product
- Price/quality ratio
- Easiness of Use
- Experience and knowledge in internationalization
- Recognition of the brand
- Difficulty to imitate

Weaknesses

- Small Size of the company (financial and resources constraints)
- Weak control over distributors and agents
- Not suitable for all types of oil

Opportunities

- Increasing number of countries legislating the quantity of TPM
- Increase awareness in Asia for the importance of food quality control
- Increase consumption of oils in Asia

Threats

- Size and power of competitors
- Unawareness of the necessity of controlling the quality of cooking oil
- Substitute products
- The size of counterfeiting business in Asia
- Frying without oil techniques
- International unawareness of the brand
- Dependency of OT international sales

In order to boost the business, it is necessary to carefully look at opportunities and strengths as a path to follow, trying at the same time to reduce the impact of weaknesses and threats.

5.4 Selection of Target Markets in Asia

As mentioned in the literature review at the beginning of this report, the international market selection is one of the most important and challenging decisions that firms have to take in the internationalization process as there are several aspects that can be considered as criteria for ranking countries' attractiveness.

In the process of selection it is applied the Johanson's model (1997). Being a rational and still valid method, it is believed to be adequate for CPC market selection. According to this model there are four different phases:

1) *Country Identification*: A first selection excludes undeveloped Asian countries (based on GDP) and countries which do not fit in the firm' strategic objectives (Middle East).
2) *Preliminary Screening:* An analysis of macroeconomic indicators (GDP, GDP growth rate, population, inflation, unemployment, value of imported goods and services and the easiness of doing business ranking) is performed.
3) *In depth Screening:* Analysis of the number of hotels, global food security, vegetable oil consumption and cultural distance.
4) *Final Selection:* Country final selection and analysis of potential partnerships.

In this phase, data collection is gathered from different sources including internal information from CPC reports. The main sources of external information are institutional websites as the World Bank, the International Monetary Fund, AICEP, the Hofstede Centre, and national agencies for food control from specific countries.

5.4.1 First Step – Country Identification

In this first phase, there are identified the potential target countries. From the overall 36 countries belonging to Asia, in a first approach some are considered not suitable for CPC's market expansion. Firstly, countries belonging to the Middle East were excluded for the purpose of this work, as well as poor and underdeveloped countries, using nominal GDP as selection factor.

In Table 8 were marked the Asian countries that are selected, considering their nominal GDP, and consequently Table 9 presents the ten countries that will be considered for a later analysis.

Table 8: Asian Countries GDP in 2014 (Values and Rankings)

GDP Rank in Asia	GDP Rank in the World	Name of the Country	Nominal GDP ($)
1	2	China	10.354.832
2	3	Japan	4.601.461
3	9	India	2.048.517
4	13	South Korea	1.410.383
5	16	Indonesia	888.583
6	19	Saudi Arabia	746.249
7	28	Iran	425.326
8	29	Thailand	404.824
9	30	United Arab Emirates	399.451
10	35	Malaysia	338.104
11	36	Singapore	307.860
12	37	Israel	305.675
13	40	Philippines	284.777
14	44	Pakistan	243.632
15	47	Iraq	223.508
16	50	Qatar	210.109
17	48	Kazakhstan	217.872
18	54	Vietnam	186.205
19	55	Bangladesh	172.887

GDP Rank in Asia	GDP Rank in the World	Name of the Country	Nominal GDP ($)
20	64	Oman	81.797
21	65	Sri Lanka	78.824
22	73	Uzbekistan	62.644
23	86	Turkmenistan	47.932
24	88	Lebanon	45,731
25	92	Yemen	35,995
26	93	Jordan	35.827
27	95	Bahrain	33.851
28	108	Nepal	19.770
29	112	Brunei	17.105
30	115	Cambodia	16.778
31	132	Mongolia	12.016
32	140	Tajikistan	9.242
33	146	Kyrgyzstan	7.404
34	164	Maldives	3.062
35	168	Bhutan	1.959
36	174	Timor-Leste	1.417

Source: International Monetary Fund

Table 9: Selected Countries

Name of the Country
China
Japan
India
South Korea
Indonesia
Thailand
Malaysia
Singapore
Philippines
Vietnam

5.4.2 Second Step – Preliminary Screening

In the second step of Johanson's model, there are analyzed different macroeconomic factors from each of the countries. Some of the variables used as decision criteria are: GDP per capita as an indicator of development, total population as an indicator for the

market size, and the easiness of doing business as a sign of the facilities that can be found in each country (e.g. legal, infrastructure).

Table 10 below contains the indicators mentioned above, and the best four indicators of each category are marked with the green color.

Table 10: Macroeconomic Indicators

Country	GDP 2012	GDP 2013	GDP 2014	GDP growth		GDP per capita 2014	Population 2014	Population Density	Inflation	Imported goods and services (GDP%)	Unemployment Rate (% of Labor force)
				2012-2013	2013-2014						
China	8,46162E+12	9,4906E+12	1,03548E+13	12,16%	9,11%	7590	1,364,270,000	145	2	18,9	4,7
India	1,83178E+12	1,8618E+12	2,04852E+12	1,64%	10,03%	1581,5	1,295,291,543	436	6,4	25,5	3,6
Indonesia	9,1787E+11	9,10479E+11	8,88538E+11	-0,81%	-2,41%	34919	254,454,778	140	6,4	24,5	6,2
Japan	5,95448E+12	4,91956E+12	4,60146E+12	-17,38%	-6,47%	36194,4	127,131,800	349	2,7	19	3,7
Malaysia	3,14443E+11	3,23343E+11	3,38104E+11	2,83%	4,57%	11307,1	29,901,997	91	3,1	64,6	2
Philippines	2,50092E+11	2,71927E+11	2,84777E+11	8,73%	4,73%	2872,5	99,138,690	332	4,1	32,4	7,1
Singapore	2,89936E+11	3,02246E+11	3,0786E+11	4,25%	1,86%	56284,6	5,469,700	7,736	1	163,2	3
South Korea	1,22281E+12	1,3056E+12	1,41038E+12	6,77%	8,03%	27970,5	50,423,955	517	1,3	45,3	4,1
Thailand	3,97472E+11	4,20167E+11	4,04824E+11	5,71%	-3,65%	5977,4	67,725,979	133	1,9	62,6	0,9
Vietnam	1,5582E+11	1,71222E+11	1,86205E+11	9,88%	8,75%	2052,3	90,730,000	293	4,1	83,1	2,3

Market prices (USD)

Source: World Bank

Table 11: Easiness of Doing Business

Country	Ease of Doing Business Rank	Starting a Business	Dealing with construction permits	Getting electricity	Registering Property	Getting credit	Proctectoring minor investors	Paying taxes	Trading across borders	Renforcing contracts	Resolving Insolvencies
China	**11**	22	6	2	18	59	25	39	65	16	21
India	**130**	155	183	70	138	42	8	157	133	178	136
Indonesia	**109**	173	107	46	131	70	88	148	105	170	77
Japan	**34**	81	68	14	48	79	36	121	52	51	2
Malaysia	**18**	14	15	13	38	28	4	31	49	44	45
Philipines	**103**	165	99	19	112	109	155	126	95	140	53
Singapore	**1**	10	1	6	17	19	1	5	41	1	27
South Korea	**4**	23	28	1	40	42	8	29	31	2	4
Thailand	**49**	96	39	11	57	97	36	70	56	57	49
Vietnam	**90**	119	12	108	58	28	122	168	99	74	123

Source: World Bank

Countries like Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam are excluded in this second phase, due to its lower GDP, since there is no point in doing a deeper analysis once they do not represent potential markets for expansion.

5.4.3 Third Step – In depth Screening

In the third step there are considered in depth factors that might have a decisive impact on the market selection. The existence of legal regulation or recommendation for the control of the cooking oil quality is one of the elements considered. The importance of briefly analyzing the market sector is emphasizing by the data collection from the total number of hotels and vegetable oil consumption in the four remaining countries.

5.4.3.1 Analysis of existing regulation

As it has been mentioned during the elaboration of this report, the control of cooking's oil quality is fundamental to guarantee an improvement of the public health. However, in the majority of the cases there is a lack of awareness regarding the possible consequences of not controlling the presence of harmful compound in the oil.

In this phase it is important to look at the existence of regulation, once if there is already legislation (meaning that by the law it is mandatory to control the quality of the cooking's oil), it would be easier for OT to be recognize when comparing to a country where there no such awareness.

In Table 12 below, there is a list of who is the responsible agency for food quality control in each country, and if there is (or not) legislation/recommendation in the area. For ranking purposes, countries with legislation receive a lower score than countries with no legislation.

Table 12: Analysis of the existent regulation

Country	Name of the responsible entity	Legislation	Recommendation	Level	
				FFA	TPM
China	China Food and Drug Administration (CFDA)	-	Yes		<27%
India	Central Drugs Standard Control Organization (CDSCO)	Yes	-	<,25%	
Japan	Pharmaceutical and Medical Devices Agency (PMDA)	-	Yes	≤2,5%	
South Korea	Ministry of Food and Drug Safety (MFDS)	No	No		

Source: Own Ellaboration

5.4.3.2 Sector and Market Numbers

In Table 13 it is possible to look at some numbers about Vegetable Oils consumption, the importance given to food security in each country, which is illustrated by the global food security index, and also look at the number of hotels as a proxy for potential clients.

Table 13: Sector Analysis

		Number of Hotels (2014)	Global Food Security Index (2015)	Vegetable Oil Consumption (million of tones, 2014)
Countries	**China**	18874	49	29.24
	India	1232	68	16.89
	Japan	8990	21	2.16
	South Korea	3246	26	-

Sources:
Global Food Security Index
AOSC Lipid Library

5.4.3.3 Cultural Distance

One of the advantages of Johanson's model is the addition of the cultural distance as a selection variable. For a deeper understanding of the cultural aspects for each of the four countries, it is used the Hofstede 6 Dimensions Model (power distance, individualism, masculinity, uncertainty avoidance, long term orientation and indulgence).

Chinese society, for example, is mentioned as being adaptable and entrepreneurial, driven and oriented to success. In India, there is a great influence of Hinduism, leading to general acceptance of imperfection and delays, since there is the notion that time is not important. In an opposite side, Japan is a culture extremely concerned with time, with the belief that life is a short and everything should be planned (long-term oriented society). On the other hand, South Korea is a society oriented for the long term and focused on work but also privileges free time and flexibility.

In *Annex IV*, it is possible to find a deeper explanation of all the dimensions for the different countries. For ranking purposes, the differences on each dimension between Portugal and the Asian country are presented in the table below.

Table 14: Hofstede Model – Differences between Portugal and the target country

	Difference between Portugal and			
	China	India	Japan	South Korea
Power Distance	17	14	9	3
Individualism	7	21	19	9
Masculinity	35	25	64	8
Uncertainty Avoidance	69	59	7	14
Long Term Orientation	59	23	60	72
Indulgence	9	7	9	4
Total Difference	**196**	**149**	**168**	**110**

Source:Own Ellaboration

5.4.4 Fourth Step - Final Selection

Table 15: The Decision Matrix

			Countries			
		Preponderance	China	India	Japan	South Korea
Factors	Macroeconomic Indicators	20%	1	4	2	3
	Easiness of Doing Business	15%	2	4	3	1
	Existing Legislation	10%	1	1	2	2
	Cooking Oil Consumption	15%	1	2	4	3
	Number of Hotels	10%	1	4	2	3
	Cultural Distance	10%	4	2	3	1
	GFSI	20%	3	4	1	2
Total		**100%**	1,85	3,20	2,35	2,20

Source: Own Ellaboration

The final step selects a country for market expansion in the Asian market. Considering all the variables from the previous steps, Table 15 summarizes and ranks countries according to their performance in each of the decision criteria. According to it, China is the country selected for the penetration of CPC. The Chinese market is particularly attractive due to their size, but also because of the development of the food safety industry and the increase awareness for the control of the cooking oil quality as it shown by the recommendation for the control of TPM. Furthermore, another encouraging aspect is the heavily dependence of the Chinese cuisine on the cooking oil.

5.5 The actual situation of cooking's oil consumption in China

China's food culture depends heavily on cooking oil for dairy use, giving to China the title of the world's largest vegetable oil consumer. Chinese consumers prefer vegetable and seed oils as they are perceived to be healthier than animal oils. The increase in soybean oil consumption is rising, since imported soybean is arriving largely, what increases its supply and consequently lowers the price. This type of oil is the specially used in catering industry, accounting for 43% of the total consumption. Meanwhile rapeseed oil also arrived largely, thus its supply and consumption also increased. Canola oil is also very appreciated in the country, representing 20% of all consumption in the country in 2013.

In another hand, the consumption of palm oil is decreasing in the country, largely influenced by the reducing of financing trade with import quantity decreasing 650 000 tons in 2014. China's per capita consumption of oils and fats is close to 26 kilograms a year (by Oil World) and the country's oils and fats market was valued at US$16.2 billion, according to Euromonitor. Between 2008 and 2013, overall consumer expenditures on edible oils increased 14% (CAGR), for almost $8 USD billion, showing that economic growth tends to increase vegetable oil consumption.

5.6 Entry Mode Strategy

Considering the previous knowledge from cultural factors, the literature review, the existing knowledge of the company CPC and the product OleoTest, the entry mode strategies are limited, especially by the financial and capacity constraints of the firm. As

the internationalization of the company has previously been done only through direct exporting, the suggested entry modes are:

- *Indirect Exporting:* in the case of China, and due to the specificities of the country, special the language barriers and the existing cultural differences, the strategy of indirect exporting is the most suitable entry mode. The existence of a contact agent with more knowledge of the Chinese market (language, business habits and contacts) is the best solution to surpass all the barriers associated to this great challenge and decreases the risk for CPC.

- *Direct Export:* the option of direct exporting can also be considered, since it would give a higher control level but would also represent a higher cost. However, as the company has a short internationalization experience when moving to markets which are geographically further, this strategy would represent a higher risk especially since it is particularly difficult to find the right agent/distributor. In another hand, it provides a higher control level than indirect exporting.

- *Strategic Alliance:* the possibility of having special contracts with institutions responsible for food quality control is also a solution for CPC entrance in the Chinese market. China Food and Drug Administration (CFDA) is the responsible entity for the food quality control in all the country, having a representative in each of the regions (e.g. CFDA Xangai). Consequently, CPC would benefit from this alliance, because it would increase product awareness and the speed of entrance in the market and, since it is an institution, there is no risk of sharing information with a competitor.

5.6.1 International Fairs in China

One of the fundamental steps in the internationalization process is to find the right agent/distributor in the market. In this way, and specially after observing during the internship the inefficiency of e-mail for the first contact, the participation in international fairs is a great solution to enlarge networks and find those partners, particularly in a B2B environment. The principal international fairs for CPC to visit are in the area of food industry and food quality control. This selection was done considering the feedback obtained from the previous visit of CPC to FHC 2014 in

Shanghai, one of the largest international fairs in the food industry, although the fair was too big and more focused on food rather than on food quality control.
In Table 16 below, there is a sum-up describing the main international events selected for CPC and that will take place in 2016/2017.

Table 16: List of Recommended International Fairs in China for 2016

Name of the Event	Brief Description	Date and Place	Who Should Visit?
Sial China 2016	"Asia's largest food and innovation exhibition".	5th-7th May 2016 Xangai	2900 expositors (40% Chinese and 60% international) and 66000 visitors
Food Safety and Quality Control Conference + Expo	A conference and expo presenting the last trends in food safety and quality control.	2nd – 3rd November 2016 Xangai	A sort number of entities related to food safety as: Government, Private & Commercial Testing Labs Food Testing & Analytic Services Food Science, Engineering & Technology Food Research & New Product Development Food Nutritionists & Dieticians Food & Beverage Manufacturing Food Production & Processing Food Importers & Exporters Supply Chain Management Food Retailing, Catering Natural & Health Foods Food Safety Auditing & Certification Food Safety Management Quality Control & Assurance
HOFEX	Food and Beverages, Equipment, Supply, Services, and Hospitality Technologies *"The leading food and hospitality tradeshow"*.	8th -11th May 2017 Hong Kong	Key event for food and hospitality industry. Hotel , Restaurant, Retail Chain, Catering, F&B Importer/Exporters More than 2400 exhibitors.

Source: *Own Ellaboration*

5.6.2 Who are the possible partners?

As in countries where the firm is already present, potential partners for CPC are companies working on food safety sectors such as labs, inspection entities and food

quality control teams. Hotels, restaurants and catering services are some of the potential targets as well.

It is fundamental to be extremely careful in this market when selecting partners specially when there is no face-to-face contact, since unfortunately there are a lot of fake companies trying to make money. The company already had a bad experience dealing with a fake Chinese company who ordered by e-mail a huge amount of OT (the quantity was equivalent to the annual production of the firm) and then asked not just for a meeting in China but also money in advance for bureaucratic questions. In this particular case, CPC asked AICEP to identify that possible client as a fake Chinese company which had already did the same with other Portuguese firms.

5.6.3 Regions

The overall size of the Chinese market is one of the main attractiveness and risks. For a better penetration in this market, it is fundamental to look and select some regions to focus the attention since it is impossible to enter all the market at the same time (specially due to human and resources constraints from CPC).

Table 17: Selected Chinese Regions

Selected Regions
1. Guangdong
2. Shandong
3. Henan
4. Sichuan
5. Jiangsu

Using two variables - GDP and total population (Tables II and III and Figure 1 of *Annex V*), there were selected 5 regions to enter in China, presented in Table 17, corresponding to those which have a higher GDP and population.

6. Conclusions

In a context where globalization is imposing new challenges and opportunities to firms in general, it is possible to say that, due to their size, there are some barriers that particularly smaller firms will continue to face as the lack of knowledge regarding international activities and resources constraints (e.g. human, capital). To surpass these limitations, it is crucial for SME to create an international strategic plan determining which countries are interesting for future expansion and how can the company penetrate and adapt to the specificities of the new market. One of the most important factors that allow a company to be succeed in internationalization is having an innovative product, and in that aspect Castro, Pinto & Costa (where our curricular internship was realized) can take advantage overseas of the uniqueness characteristics of OleoTest.

Taking in account that this project was developed with the main goal of helping in the internationalization process of CPC to China, the research questions that it tries to answer come a step before (since there was no defined criteria for the selection). By suggesting the best country for CPC's expansion to Asia and the appropriate mode to enter in the selected market, our report tries to test the validity of China as the best country in Asia for market penetration.

The literature review in internationalization, International Market Selection and Entry Mode Selection allowed a deeper knowledge of the main theories and assumptions that are useful for application in the particular case of CPC.

After an initial diagnosis of the firm's strategic position with the identification of the main opportunities and risks, the Johanson's IMS model was applied to Asia. During the four steps of this model, the list of countries has decreased until reaching a final country. Firstly taking in account macroeconomic factors as GDP, population and unemployment rate, and later more specific factors as the Hofstede model for cultural distances, the Global Food Security Index, and the number of hotels, China was the selected country for the expansion of CPC. Thereafter, considering the characteristics of the firm and the selected market, the most suitable entry modes for the case under analysis are indirect export, direct export and strategic alliance. Finally, there were made recommendations of international fairs for CPC where it would be possible to establish or increase networks with potential clients and partners /distributors in China,

as well as a list of the preferable Chinese regions where the company can focus the attention.

From this six month experience at CPC, it was possible to apply some of the knowledge acquired through the academic period and, at the same time, to develop some working skills that can benefit the firm and also influence my future professional life.

7. References

Ahokangas, P. (1998). Internationalisation and resources: an analysis of processes in Nordic SMEs, Universitas Wasaensis.

AICEP. 2012. Agência para o Investimento e Comércio Externo de Portugal. Internacionalizar available at http://www.portugalglobal.pt/PT/Biblioteca/LivrariaDigital/AspectosAcautelarProcessoIDPE.pdf accessed on 10-12-2015

Andersen, O. and L. S. Kheam (1998). "Resource-based theory and international growth strategies: an exploratory study." International business review 7(2): 163-184.

Andersson, S. (2000). "The internationalization of the firm from an entrepreneurial perspective." International Studies of Management & Organization: 63-92.

Andersson, S., et al. (2004). "International activities in small firms: examining factors influencing the internationalization and export growth of small firms." Canadian Journal of Administrative Sciences 21(1): 22-34.

Andersson, S. and I. Wictor (2003). "Innovative internationalisation in new firms: born globals–the Swedish case." Journal of International Entrepreneurship 1(3): 249-275.

Ansoff Matrix in the business dictionary available at http://www.businessdictionary.com/definition/Ansoff-matrix.html accessed on the 10-05-2016

Asian Pest Analysis. available at http://www.jfdi.asia/blog/2010/01/09/pest-analysis accessed on 25/05/2016

Barney, J. (1991). "Firm resources and sustained competitive advantage." Journal of management 17(1): 99-120.

Björkman, I. and M. Forsgren (2000). "Nordic international business research: a review of its development." International Studies of Management & Organization: 6-25.

Böttner, S. and S. Hollensen (2011). Global Marketing: A Decision-Oriented Approach, JSTOR.

Brouthers, L. E. and G. Nakos (2005). "The role of systematic international market selection on small firms' export performance." Journal of Small Business Management 43(4): 363-381.

Buckley, P. J. and M. Casson (1993). "Economics as an imperialist social science." Human Relations 46(9): 1035-1052.

Burgel, O. and G. C. Murray (2000). "The international market entry choices of start-up companies in high-technology industries." Journal of International marketing 8(2): 33-62.

Calof, J. L. and P. W. Beamish (1995). "Adapting to foreign markets: Explaining internationalization." International business review 4(2): 115-131.

Cateora, P. R., et al. (2013). Marketing internacional, AMGH Editora.

Caves, R. E. (1971). "International corporations: The industrial economics of foreign investment." Economica: 1-27.

Cavusgil, S. T. (1976). Organizational determinants of firms' export behavior: an empirical analysis, University of Wisconsin--Madison.

Cavusgil, S. T. and J. Naor (1987). "Firm and management characteristics as discriminators of export marketing activity." Journal of Business Research 15(3): 221-235.

Chen, W.-A., et al. (2013). "Total polar compounds and acid values of repeatedly used frying oils measured by standard and rapid methods." Journal of Food and Drug Analysis 21(1): 58-65.

Chetty, S. and D. B. Holm (2000). "Internationalisation of small to medium-sized manufacturing firms: a network approach." International business review 9(1): 77-93.

China Food Safety and Quality Control Conference + Expo available at http://www.chinafoodsafety.com/ accessed on the 25-05-2016

China recommendation 27% TPM, available at https://www.testo.it/resources/media/global_media/download_files/pocket_guide/Field_Guide_Cooking_oil_2981_3014_EN.pdf accessed on 13-03-2016

Choe, E. and D. Min (2007). "Chemistry of deep-fat frying oils." Journal of food science 72(5): R77-R86.

Coco, M. (2000). "Internships: A try before you buy arrangement." SAM Advanced Management Journal 65(2): 41.

Dalli, D. (1995). "The organization of exporting activities: relationships between internal and external arrangements." Journal of Business Research 34(2): 107-115.

Doole, I. and R. Lowe (2008). International marketing strategy: analysis, development and implementation, Cengage Learning EMEA.

Dunning, J. H. (1988). "The eclectic paradigm of international production: a restatement and some possible extensions." Journal of international business studies: 1-31.

Dunning, J. H. (2000). "The eclectic paradigm as an envelope for economic and business theories of MNE activity." International business review 9(2): 163-190.

Economy Rankings – The World Bank Group, available at http://www.doingbusiness.org/rankings accessed on 10-04-2016

Euromonitor- China Oils and Fats Report 2015 - http://www.euromonitor.com/oils-and-fats-in-china/report accessed on 19-04-2016

European Comission: Definition of Small and Medium Enterprises (SME), available at http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm accessed on 10-02-2016

European Comission Recommendation on Total Polar Materials available at http://www.dgfett.de/material/recomm.php accessed on 22-04-2016

Fahy, J. (2002). "A resource-based analysis of sustainable competitive advantage in a global environment." International business review 11(1): 57-77.

Fernandes, A. E. d. S. (2012). "Realização de estudos de conformidade de um teste rápido."

Fischer, E. and A. R. Reuber (2003). "Targeting export support to SMEs: Owners' international experience as a segmentation basis." Small Business Economics 20(1): 69-82.

Fletcher, R. (2001). "A holistic approach to internationalisation." International business review 10(1): 25-49.

Fritsch, C. (1981). "Measurements of frying fat deterioration: a brief review." Journal of the American Oil Chemists' Society 58(3): 272-274.

Gankema, H. G., et al. (2000). "The internationalization process of small and medium-sized enterprises: an evaluation of stage theory." Journal of Small Business Management 38(4): 15.

Gaultier, Céline (2013). "The internationalization of SMEs". Dublin Business School

Global Food Security Index, available at http://foodsecurityindex.eiu.com/Country at 22/04/2016 11:23 accessed on 19-05-2016

Harris, K. J. and J. Zhao (2004). "Industry internships: Feedback from participating faculty and industry executives." International Journal of Contemporary Hospitality Management 16(7): 429-435.

Hennart, J.-F. (1982). A theory of multinational enterprise, Univ of Michigan Pr.

Hofex China - Asia's leading food & hospitality tradeshow available at http://hofex.com/ accessed on the 25-05-2016

Hofstede Center – Strategy, Culture, Change, available at https://geert-hofstede.com/china.html accessed on 18/05/2016

Hollensen, S. (2007). Global marketing: A decision-oriented approach, Pearson education.

Hollensen, S., et al. (2011). "The choice of foreign entry modes in a control perspective." IUP Journal of Business Strategy 8(4): 7.

Hutchinson, K., et al. (2006). "SME retailer internationalisation: case study evidence from British retailers." International Marketing Review 23(1): 25-53.

Hymer, S. H. (1976). The international operations of national firms: A study of direct foreign investment, MIT press Cambridge, MA.

India legislation for limiting the quantity of FFA, available at http://www.fssai.gov.in/Portals/0/Pdf/vegetableoils.pdf accessed on 14-03-2016

INE: "Estudos sobre Estatísticas Estruturais das Empresas" 2007-2009, available at http://webcache.googleusercontent.com/search?q=cache:vRgumdU-XRQJ:https://www.ine.pt/ngt_server/attachfileu.jsp%3Flook_parentBoui%3D122319003%26att_display%3Dn%26att_download%3Dy+&cd=3&hl=pt-PT&ct=clnk&gl=pt accessed on 10-02-2016

Johanson, J. and J.-E. Vahlne (1977). "The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments." Journal of international business studies: 23-32.

Johanson, J. and J.-E. Vahlne (2003). "Business relationship learning and commitment in the internationalization process." Journal of International Entrepreneurship 1(1): 83-101.

Johanson, J. and J.-E. Vahlne (2009). "The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership." Journal of international business studies 40(9): 1411-1431.

Katsikeas, C. S. and R. E. Morgan (1994). "Differences in perceptions of exporting problems based on firm size and export market experience." European Journal of Marketing 28(5): 17-35.

Katsikeas, C. S. and N. F. Piercy (1993). "Long-term export stimuli and firm characteristics in a European LDC." Journal of International marketing: 23-47.

Knight, G. (1996). "Born global." Wiley International Encyclopedia of Marketing.

Knight, J. (2004). "Internationalization remodeled: Definition, approaches, and rationales." Journal of studies in international education 8(1): 5-31.

Knouse, S. B. (2008). "'henefits of the business college internship: a research review."

Koch, A. J. (2001). "Selecting overseas markets and entry modes: two decision processes or one?" Marketing Intelligence & Planning 19(1): 65-75.

Kogut, B. (1985). "Designing global strategies: Comparative and competitive value-added chains." Sloan management review 26(4): 15-28.

Kogut, B. and S. J. Chang (1996). "Platform investments and volatile exchange rates: Direct investment in the US by Japanese electronic companies." The Review of Economics and Statistics: 221-231.

Lee, C.-C., et al. (2015). "Globalization, Economic Growth and Institutional Development in China." Global Economic Review 44(1): 31-63.

Madsen, T. K. and P. Servais (1997). "The internationalization of born globals: an evolutionary process?" International business review 6(6): 561-583.

McAuley, A. (1999). "Entrepreneurial instant exporters in the Scottish arts and crafts sector." Journal of International marketing: 67-82.

McDougall, P. P., et al. (1994). "The effects of industry growth and strategic breadth on new venture performance and strategy content." Strategic Management Journal 15(7): 537-554.

McDougall, P. P. and B. M. Oviatt (2000). "International entrepreneurship: the intersection of two research paths." Academy of management Journal 43(5): 902-906.

McDougall, P. P., et al. (2003). "A comparison of international and domestic new ventures." Journal of International Entrepreneurship 1(1): 59-82.

Mitja, R., et al. (2006). "SME internationalization research: past, present, and futurenull." Journal of Small Business and Enterprise Development 13(4): 476-497.

Mlcek, J., et al. (2015). "Assessment of total polar materials in Frying fats from Czech restaurants." Italian Journal of Food Science 27(2): 160.

Musso, F. and B. Francioni (2012). "How do smaller firms select foreign markets?" International Journal of Marketing Studies 4(6): 44-53.

Musso, F. and B. Francioni (2014). "International strategy for SMEs: criteria for foreign markets and entry modes selection." Journal of Small Business and Enterprise Development 21(2): 301-312.

Oils and Fats Consumption Worldwide, available at http://lipidlibrary.aocs.org/OilsFats/content.cfm?ItemNumber=39448 accessed on 2-04-2016

Oliveira, P. and A. A. Teixeira (2011). The internationalization profiles of Portuguese SMEs, Universidade do Porto, Faculdade de Economia do Porto.

Oviatt, B. M. and P. P. McDougall (1994). "Toward a theory of international new ventures." Journal of international business studies: 45-64.

Papadopoulos, N., et al. (2002). "Toward a tradeoff model for international market selection." International business review 11(2): 165-192.

Papadopoulos, N. and J.-E. Denis (1988). "Inventory, taxonomy and assessment of methods for international market selection." International Marketing Review 5(3): 38-51.

Papadopoulos, N., et al. (2011). "International market selection and segmentation: perspectives and challenges." International Marketing Review 28(2): 132-149.

PLEITNER, H. J. (1997). "Globalization and entrepreneurship: entrepreneurs facing the ultimate challenge." Journal of Enterprising Culture 5(01): 27-55.

Reid, S. D. (1981). "The decision-maker and export entry and expansion." Journal of international business studies 12(2): 101-112.

Root, F. R. (1998). Entry strategies for international markets, Jossey-Bass San Francisco, CA.

Rugman, A. M. (1982). Internalization and non-equity forms of international involvement.

Saarenketo, S., et al. (2004). "Dynamic knowledge-related learning processes in internationalizing high-tech SMEs." International Journal of Production Economics 89(3): 363-378.

Sanchez-Peinado, E., et al. (2007). "Strategic variables that influence entry mode choice in service firms." Journal of International marketing 15(1): 67-91.

Saunders, M. N., et al. (2011). Research methods for business students, 5/e, Pearson Education India.

Shan, W. and J. Song (1997). "Foreign direct investment and the sourcing of technological advantage: evidence from the biotechnology industry." Journal of international business studies: 267-284.

Shimizu, K., et al. (2004). "Theoretical foundations of cross-border mergers and acquisitions: A review of current research and recommendations for the future." Journal of International Management 10(3): 307-353.

Sial China available at http://www.sialchina.com/ accessed on 25-05-2016

Sousa, M. J. and C. S. Baptista (2011). "Como fazer investigação, dissertações, teses e relatórios segundo Bolonha." Lisboa: Pactor.

Statita - Chinese GDP by region available at http://www.statista.com/statistics/278557/gdp-of-china-by-region/ accessed on 25-04-2016

Statita - Chinese Population by region available at http://www.statista.com/statistics/279013/population-in-china-by-region/ accessed on 25-04-2016

Stinchcombe, A. L. and J. March (1965). "Social structure and organizations." Advances in strategic management 17: 229-259.

Storey, D. J. (1994). Understanding the small business sector, Cengage Learning EMEA.

Suseno, Y. and V. Ratten (2007). "A theoretical framework of alliance performance: The role of trust, social capital and knowledge development." Journal of Management & Organization 13(01): 4-23.

Tamaki, R. (2013). "The future of the Asian economic and financial community." OECD Journal: Financial Market Trends 2012(2): 67-78.

Tamer Cavusgil, S. and Y. M. Godiwalla (1982). "Decision-making for international marketing: a comparative review." Management decision 20(4): 47-54.

Van Hoorn, T. P. (1979). "Strategic planning in small and medium-sized companies." Long range planning 12(2): 84-91.

Varela, G., et al. (1988). "Frying of foods, principles, changes, new approaches." England: Ellis Horwood Ltd Chichester.

Wrona, T. and P. Trąpczyński (2012). "Re-explaining international entry modes–Interaction and moderating effects on entry modes of pharmaceutical companies into transition economies." European Management Journal 30(4): 295-315.

Annexes

Annex I: Interview with the CEO of CPC – Eng. Inês de Castro, realized on March 2016

1) **When was the company founded and what does it offer?**

Castro, Pinto & Costa, Lda. was created in the year of 2000, by four graduated students from the University of Minho after acknowledging the existent gap in the area of food safety control. CPC positioned itself in the market by being one of the rare companies in Portugal that has three integrated and complementary business units (BU): *BU services* providing support to business customers through consulting, auditing and training; *BU laboratory* including the research services, development & innovation (RDI) and analytical checks; and *BU products* providing products and equipment for the food processing industry. Currently the UN services represent about 45% of company turnover and are gradually losing some weight (represented about 65% in 2003). The company is strongly dependent of the BU products which are now representing more than 50% of the entire turnover.

The CPC works closely with the University of Minho particularly with regard to R & D activities and has launched some other products on the market related with computer applications.

2) **What is OleoTest and how was it developed? How does OleoTest differentiate from its competitors?**

The product OleoTest had been developed during 3 years and the official launch occurred in 2003. OleoTest is an innovative and a unique formula kept in secret by its founders for the control of cooking oils and emerged in the market as simpler solution and offering a higher level of reliability when comparing to other tests. OleoTest is a colorimetric test that measures the quantity of Total Polar Materials (TPM), compounds that are formed after the heating of the cooking oil and when present in excess can be harmful for human health. The test gives to users the information of when should the oil be substitute. In Portugal, as in many other countries there is legislation for maximum quantity of TPM and other compounds as FFA present in the cooking oil. In our country the legislation is only for the presence of TPM and sets that the oils must be changed when the quantity is higher than 25%.

OleoTest differentiates from competitors in terms of savings for clients by not requiring special conditions for storing nor is any calibration necessary. The easiness of use, the fastness of the results (available in 2 minutes), and the possibility of being used with different types of oils (peanuts, corn, soy, and sunflower oils) are also some of the advantages of the product.

OleoTest is an internationally registered brand since 2009.

3) Who are OleoTest clients? What is the profile of OleoTest users?

The main clients of OleoTest are other distributors selling equipment for food quality control and healthcare instruments. The company acts primarily in the Business to Business (B2B) segment but in Portugal, it also sells directly to the final client playing in this case in the Business to Consumer (B2C) segment. Internationally the characteristics of the clients are similar to national customers with the exception that OleoTest is only plays in the B2B environment.

The main users of OleoTest are small companies which do not want to make big investments for the control of the cooking oil considering their business volume. As it was stated before, one of the main advantages of OleoTest is the low price when comparing to substitute products. Furthermore, the product does not have any maintenance either calibration additional costs. Smaller clients that do the control of the oil two or three times a week will rather prefer OT than other electronic device that represent a big initial investment.

OT is also the test used by the Portuguese Food Authority agency (ASAE) since it is possible to keep the sample for further prove, if necessary, what is not possible when using electronic devices which only register in the moment the values measured.

4) Who are the main competitors of OleoTest?

The main competitors of OT are divided in two big groups: electronic and non-electronic devices. The electronic devices, for example Testo and Ebro Fom, are more expensive and require to be calibrated once a year to guarantee the accuracy of the results. Those instruments are usually used in firms where it is necessary to test the cooking oil two or three times per day since in the end it compensates the initial investment. Chinese products are reinforcing their presence in the market offering similar test being the outside aspect very similar to Testo 270 and Ebro Fom but costing half of the price.

In the non-electronic category there are test very similar to OT, as is the example of the Portuguese company VeOléo. There are also other quick colorimetric tests as 3M strips which in contact with the oil assume a certain color. It is important to mention that not all the tests present in the market measure the same components in the oil, some measure the total quantity of polar materials (TPM) the most indicated indicator and others only measure the quantity of free fatty acids (FFA).

5) When did OleoTest internationalization process start? How did the process occur?

After the success of OleoTest in the Portuguese market and considering the limited size and saturation of our domestic market we wanted to start the internationalization of OT. The first country selected for the international expansion was Spain, due to the evident similarities between both countries and the geographical location. Similarly to what happens in Portugal, there is legislation in Spain for the control of the quantity of total polar compounds present in

the cooking oil, being mandatory for companies to do the control. Spain was in this way the perfect place to start the internationalization of OT. In 2010 and after the presence of CPC in the international fair Agoalimentaria in Barcelona we were contacted by Biomedal in order to establish a partnership for the supply of OleoTest. They currently have an exclusive right over the distribution in the market and are one of our largest foreigner clients.

Later the company started to export to France, celebrating also an exclusive distribution agreement with Alla France. Later the expansion continued to other countries and it is our objective to continue to grow overseas since we believe OleoTest is a product with large potential, being the only barrier the lack of general awareness for the issue of cooking quality control.

6) Where is OleoTest present?

Currently OleoTest is distributed through exclusive agents in Spain, France, Poland, South Africa, Panama, and Turkey. In Austria, Greece, Belgium, and Italy is also delivered through partner agents which do not have exclusive rights. However, we have the information that our product is also present in other markets by the hands of our foreign clients which sell to other international clients. In this way we do not have the desirable control over the product distribution and final price that OT reaches other markets. According to internal research OT is also present by the hand of our distributors in countries like the United States of America, Canada, Chile, Japan, Greece, Turkey, and Panama among others.

7) Why did you choose China and Middle East for further expansion of OleoTest? What is the expansion plan for the future?

These two regions are extremely important in economic terms but besides all they are growing. The Middle East especially the United Arab Emirates is trying to imitate the Occident and so, they want excellence and are now extremely concern about food safety control.

The Chinese case is different. They represent such a big market of opportunities but also threats being extremely risky action to enter there. The number of cases related with fake Chinese companies is rising. They contact companies and order huge quantities and then try to make business and ask for money in advance being necessary an extra care and precaution to avoid these situations. Of course, we know that there is also a big cultural difference what can be a barrier difficult to surpass but we believe that we can overcame the situation and be succeed in the market. We just have to find the right partner. We are already in contact with CFDA – China Food and Drug Administration in Xangai, the entity responsible for the food quality control, but Chinese culture gives extremely importance to face to face businesses what is now being an obstacle for the negotiation progress.

Annex II

Table I: The description of OleoTest Competitors

Test's Name	Parameters	Method	Type of test	Country of origin	Producing company	Channels	Average Price	Average unitary price	Additional Info
Fritest™	Carbonyl compounds	Colorimetric Test	Disposable	Germany	Merck Millipore	Distibutors and Online Shop	178,55 €	2,98 €	60 tests
3M™: Low Range Shortening Monitor	Free Fatty Acids (FFA)	Colorimetric Stripes	Disposable	USA	3M	Distibutors and Online Shop	81,33 €	0,55 €	160 tests
FASafe™	Free Fatty Acids (FFA)	Colorimetric Test	Disposable	USA	MP Biomedicals	Online Stop	208,21 €	208,21 €	It takes 10 minutes to have the results and needs calibration
MQuant™	Free Fatty Acids (FFA)	Colorimetric Stripes	Disposable	Germany	Merck Millipore	Distibutors and Online Shop	57,27 €	0,57 €	100 tests; Results in 10 min
Oxifrit - Test™	Oxidized Fatty Acids (OFAs)	Colorimetric Test	Disposable	Germany	Merck Millipore	Distibutors and Online Shop	158,91 €	2,65 €	60 tests
3M™ PCT 120 oil tester	Total Polar Compounds (TPC)	PET Srtipes	Disposable	USA	3M	Distributors	379 €	379 €	It takes 35 minutes to have the final results
FOM 320 Food Oil Monitor	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen	Electronic Device	Germany	Ebro	Selected Partners	295,12	€ 295,12	-
MirOil FQA PCM	Total Polar Compounds (TPC)	Colorimetric Test	Disposable	Canada	MirOil	Online Shop	55,33 €	1,15 €	48 tests
Testo 270	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen	Electronic Device	Germany	Testo	Distibutors and Online Shop	400 €	400 €	-
Veri-Fry™	Total Polar Compounds (TPC)	Colorimetric Test	Disposable	USA	Libra Technical Center, LLC	Online Shop	276,73 €	276,73 €	50 units
VeÓleo	Total Polar Compounds (TPC)	Colorimetric Test	Disposable	Portugal	CFPSA	Online Store and Selected Partners	9,68 €	1,21 €	8 tests
OS270 Cooking Oil Tester	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen	Electronic Device	China	Hanon	Online Store and Selected Partners	276,73 €	276,73 €	It needs calibration
Cooking Oil tester	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen	Electronic Device	China	China Coal	Online Store and Selected Partners	304,46 €	304,46 €	Similar to Testo 270; It needs calibration
Vito Oil tester	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen	Electronic Device	Germany	Vito	Online Store and Selected Partners	558 €	558 €	Similar to Testo 270
Frottino (alpha)	Total Polar Compounds (TPC)	Device deep in the oil - results showed in the screen (old version only has lights)	Electronic Device	Switzerland	Syntec	Distributors	510,62 €	510,62 €	It send the information by e-mail and also measures the temperature of the oil Calibration costs 101,64€ per year

Elaboration: Inês Figueiredo and Joana Matias

Convertion Rate: 1USD=0,9226 EUR

Annex III

E-mail type sent to possible Chinese partners presenting the company and the product OT.

"Castro Pinto & Costa (CPC), 作为一家葡萄牙公司，其产品已在食品安全领域独占鳌头。 现为您推荐我们的优势产品——"油试剂"。

油脂在高温煎炸食品过程中，会发生许多的化学反应产生各种极性化合物，这些化合物对人体健康十分有害。正因为如此，诸多国家已经把总极性物质 (TPM) 含量作为法定参数，用来验证煎炸油脂的劣化程度，并禁止销售使用TPM值超过25%煎炸油生产油炸食品。

"油试剂"是我公司研制成功的创新产品，其主要应用于食用煎炸油的质量检测，对煎炸油的TMP含量的检测既简单又方便。 "油试剂" 产品已出口远销很多国家和地区。 该产品除了广泛用于餐饮行业外, 也被一些官方机构所采用，例如欧洲食品安全机构，用以保证监督和检查的准确性。 此外，"油试剂" 在HACCP、 ISO、 BRC、 IF、 EA PAS FSSC 22000 220等 体系以及食品法典委员会中也起到了重要的辅助作用。

如果您想更多地了解我们的"油脂试剂"，敬请登陆我们的网站: http://www.oleotest.com/ ，查询各种相关信息。

我公司竭诚欢迎各界人士和食品界同仁前来洽谈，共同推广独特的"油试剂"，共同发展我们的伙伴关系！

感谢您的关注！敬请随时与我方联系。

Dear Sir/Madam

We are Castro, Pinto & Costa (CPC), a Portuguese company dedicated to the food and food chain safety and we would like to present to you our product - OleoTest®.

OleoTest® is a certificated and innovative method for testing the quality of frying oils, by measuring the levels of Total Polar Materials (TPM) and providing to its users a combination of 3 unique benefits: **easiness, low cost and reliability**. TPM are created during the frying process of food, where several chemical reactions take place, and were founded to be harmful to health and responsible for the formation of cancer cells. In order to prevent this type of risks, several governments and organizations have issued legislation and/or recommendations, which forbid the sale of food prepared in oils that possess an amount superior to 25% of polar compounds. Therefore, there is an emergent need to control in a fast and reliable way frying oils' quality.

We are currently working on the expansion of OleoTest® worldwide and we would be thrilled to become one of your partners by having OleoTest® featured in your product catalogue. Food safety is one the biggest emergencies in today society, and so we truly believe that would be a major advantage to have OleoTest® in your range of products. We would be happy to discuss those advantages with you at any opportune time, possibly through a meeting via Skype.

For more information on OleoTest® please consult the presentation attached to this e-mail or check our website: http://www.oleotest.com/, and do not hesitate to contact us.

Thank you for the attention provided and we look forward to hear from you!"

Melhores cumprimentos,

Best Regards

Inês Figueiredo

T: +351 229 952 036

M : quality@oleotest.pt

ENTIDADE ACREDITADA

PORTUGAL 2020

Vale Inovação
Vale Internacionalização
Vale I&DT
Vale Empreendedorismo

15 ANOS 2000 2015 cpc IMPROVING BUSINESS

PRODUTOS SERVIÇOS LABORATÓRIO

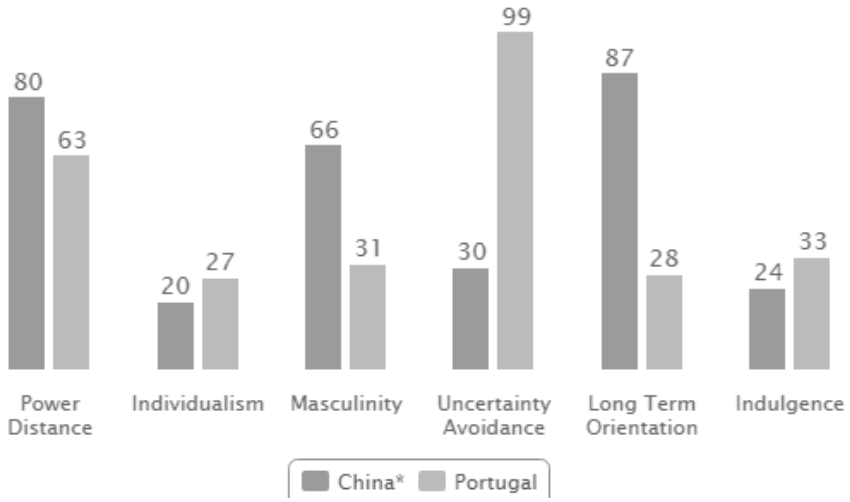
A: Armazém E – Sector X (Norte) Zona Industrial da Maia I; 4475-249 Maia - Portugal

T: +351 229 952 036| F: +351 229 969 331| M : geral@cpc.com.pt| W : cpc.com.pt

Annex IV – Cultural Distance

The analysis of the cultural aspects of the different countries is done using as a tool the Hofstede 6 Dimensions Model.

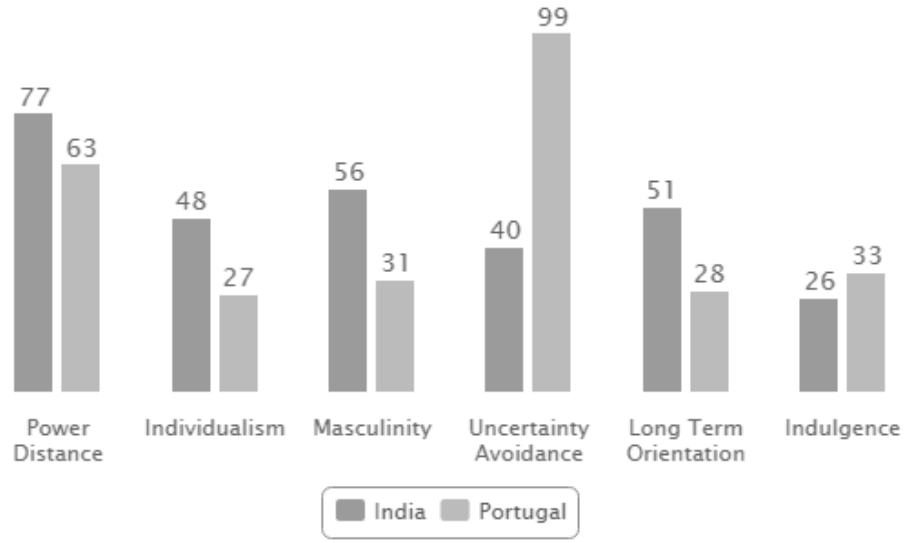
China



- *Power distance* is **'**the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally'. The Chinese society accepts inequalities between individuals. In this way, in business meeting it is fundamental to always meet someone from the same hierarchical level as a sign of respect, as for example if the CEO of the Chinese company is going to the meeting he should meet the CEO of the other firm. The exchange of gifts in these type of meetings is also a common practice.
- *Individualism* is the 'degree of interdependence a society maintains among its members'. China has a highly collectivist culture since individuals think and act in the interests of the group and not thinking about themselves.
- *Masculinity* is connected with fundamental subject which motivates people. China is a Masculine society meaning that is driven and oriented to success. The need to ensure success is so high that many people sacrifice family and leisure to work.
- *Uncertainty Avoidance*: the approach that a society has to the future uncertain. China has a low score meaning that society is comfortable with ambiguity. Chinese are adaptable and entrepreneurial.

- *Long Term Orientation*: Chinese prefer to keep time-honored traditions and norms while viewing societal change with suspicion.
- *Indulgence:* how people try to control their desires and impulses, based on the way they were raised. "Indulgence" societies have a relatively weak control and "Restraint" those with a relatively strong control. China is a restrained society with tendency to be pessimist and cynic.

India



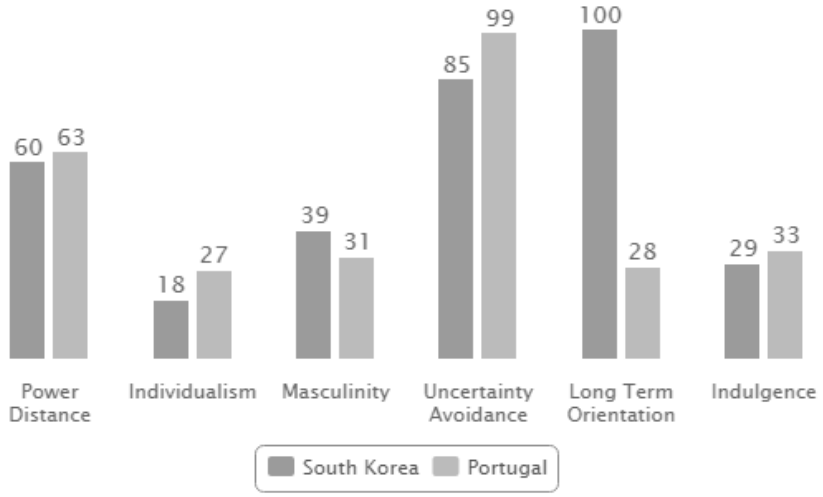
- *Power Distance:* India has a hierarchy and a top-down structured society. The Indian attitude is deeply dependent on the boss / decision maker for direction who enjoy a centralized power. Employees expect direct and clear orders for their functions. Control is familiar and attitude towards managers is formal.
- *Individualism:* India is a society with collectivistic and individualist traits. In the collectivist side there is a high preference for belonging to a larger social framework. The relationship between the employer and the employee is based on loyalty. In another hand, the Individualist aspect of Indian society is a consequence of Hinduistic influence. People are individually responsible for the way they lead their lives and the impact it will have upon their rebirth.
- *Masculinity:* India is a very Masculine society in terms of visual display of success and power. Work is the center of one's life and visible symbols of success in the work place are very important.

- *Uncertainty Avoidance:* India has a medium low preference for avoiding uncertainty. In India imperfection is widely accepted; nothing has to be perfect nor has to go exactly as planned. People generally do not feel driven and compelled to take initiatives and comfortably settle into established rolls and routines without questioning.

Long Term Orientation: In India the concept of "karma" dominates religious and philosophical thought. Time is not linear, and thus is not as important as to western societies. Countries like India have a great tolerance for religious views. Hinduism is often considered a philosophy more than even a religion; an amalgamation of ideas, views, practices and esoteric beliefs. Typically the forgiveness of punctuality or the exchanging of plans is common.

- *Indulgence:* India is a Restraint society having the tendency to cynicism and pessimism and they do not put much emphasis on leisure time and control the gratification of their desires.

South Korea



- *Power Distance:* South Korea is a slightly hierarchical society. People accept a hierarchical order in which everybody has a place with no need for further justifications. Hierarchy in an organization is seen as reflecting inherent inequalities, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat

- *Individualism:* South Korea is a collectivistic society which is manifested in a close long-term commitment to the member 'group'. Loyalty in a collectivist culture is

paramount, and over-rides most other societal rules and regulations. Offence leads to shame and loss of face, employer/employee relationships are perceived in moral terms, hiring and promotion decisions take account of the employee's in-group, management is the management of groups.

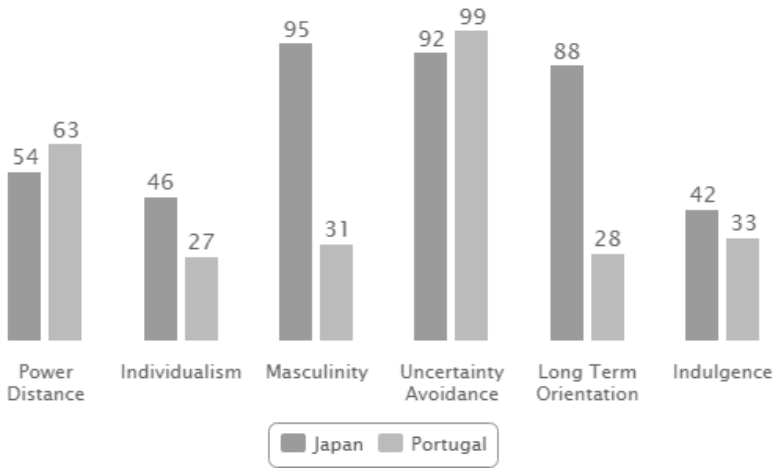
- *Masculinity:* South Korea is a Feminine society with focus on "working in order to live", where managers strive for consensus, people value equality, solidarity and quality in their working lives. Conflicts are resolved by compromise and negotiation and incentives such as free time and flexibility are favored. An effective manager is a supportive one, and decision making is achieved through involvement.

- *Uncertainty Avoidance:* South Korea is one of the most uncertainty avoiding countries in the world maintaining rigid codes of belief and behavior and being intolerant of unorthodox behavior and ideas. There is an emotional need for rules, time is money, people have an inner urge to be busy and work hard, precision and punctuality are the norm, innovation may be resisted, security is an important element in individual motivation.

- *Long Term Orientation*: South Korea is one of the most pragmatic countries, long-term oriented societies. People live their lives guided by virtues and practical good examples and not by God. Long term orientation gives priority to steady growth of market share rather than to a quarterly profit.

- *Indulgence:* South Korean society is Restraint and do not put much emphasis on leisure time and control the gratification of their desires. People have the perception that their actions are restrained by social norms and feel that indulging themselves is somewhat wrong.

Japan



- *Power Distance:* Japan is a borderline hierarchical society. Japanese are always conscious of their hierarchical position in any social setting. Some foreigners experience Japan as extremely hierarchical due to their business experience of painstakingly slow decision making process: all the decisions must be confirmed by each hierarchical layer and finally by the top management.

- *Individualism:* Japanese show many of the characteristics of a collectivistic society: putting harmony of group above the expression of individual opinions and people have a strong sense of shame for losing face. Japan has been a paternalistic society and the family name and asset was inherited from father to the eldest son. Company loyalty is something, which people have chosen for themselves, which is an Individualist thing to do.

- *Masculinity***:** Japan is one of the most Masculine societies in the world. However, in combination with their mild collectivism, it is not seen assertive and competitive individual behaviors which are often associated with the Masculine culture. What is observable is a severe competition between groups. From very young age children learn to compete on sports for their groups. Employees are more motivated when they fight for a winning team. In Japan there is a drive for excellence and perfection in the material production and in material services (hotels and restaurants) and presentation (gift wrapping and food presentation) in every aspect of life. It is still hard for women to climb up the corporate ladders in Japan with their Masculine norm of hard and long working hours.

- *Uncertainty Avoidance:* Japan is one of the most uncertainty avoiding countries on earth. This is often attributed to the fact that Japan is constantly threatened by natural disasters from earthquakes, tsunamis, typhoons to volcano eruptions. Under these circumstances Japanese learned to prepare themselves for any uncertain situation. In corporate Japan, a lot of time and effort is put into feasibility studies and all the risk factors must be worked out before any project can start. Managers ask for all the detailed facts and figures before taking any decision. This high need for Uncertainty Avoidance is one of the reasons why changes are so difficult to realize in Japan.

- *Long Term Orientation***:** Japan scores as one of the most Long Term oriented societies. Japanese see their life as a very short moment in a long history of mankind. Long term orientation is reflected in a constantly high investment rate in R&D even during difficult economical periods, and priority is given to steady growth of market share rather than to a quarterly profits.
- *Indulgence:* Japan shown to have a Restraint culture. Societies with a low score in this dimension have a tendency to cynicism and pessimism. Restrained societies do not put much emphasis on leisure time and control the gratification of their desires. People with this orientation have the perception that their actions are restrained by social norms and feel that indulging themselves is somewhat wrong.

Annex V

Table II: Chinese Regions by population in 2014

Region	2014 (in million inhabitants)
Guangdong	107,24
Shandong	97,89
Henan	94,36
Sichuan	81,4
Jiangsu	79,6
Hebei	73,84
Hunan	67,37
Anhui	60,83
Hubei	58,16
Zhejiang	55,08
Guangxi	47,54
Yunnan	47,14
Jiangxi	45,42
Liaoning	43,91
Heilongjiang	38,33
Fujian	38,06
Shaanxi	37,75
Shanxi	36,48
Guizhou	35,08
Chongqing	29,91
Jilin	27,52
Gansu	25,91
Inner Mongolia	25,05
Shanghai	24,26
Xinjiang	22,98
Beijing	21,52
Tianjin	15,17
Hainan	9,03
Ningxia	6,62
Qinghai	5,83
Tibet	3,18

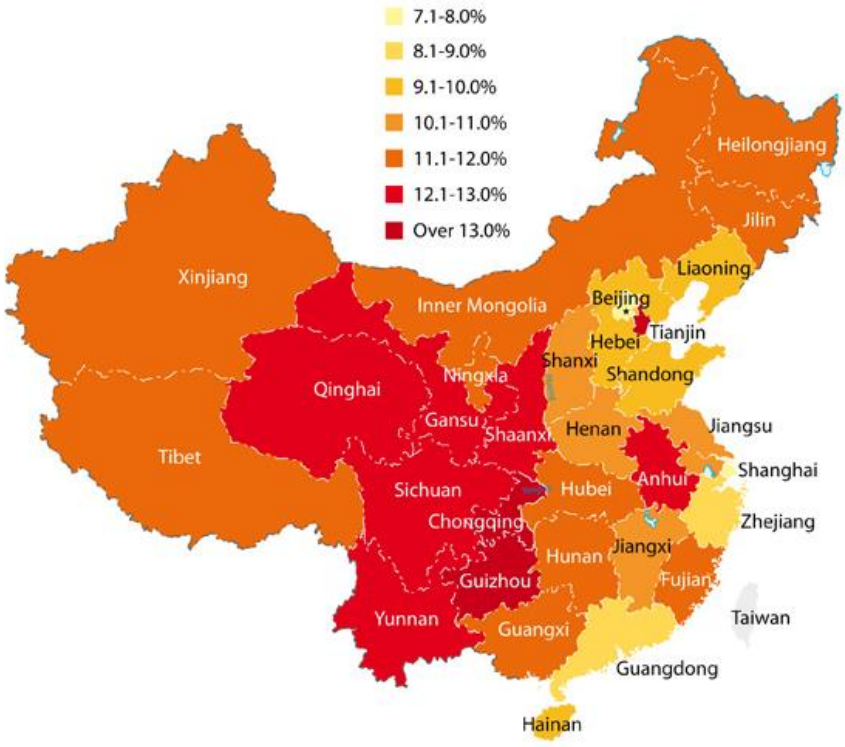
***Source**: Statista*

Table III: Chinese Regions by GDP in 2014

Rank	Region	GDP (billion USD)	Growth Rate (%)
1	Guangdong	930	8,2
2	Jiangsu	881	10,1
3	Shandong	814	9,8
4	Zhejiang	563	8
5	Henan	485	10,1
6	Hebei	433	9,6
7	Liaoning	404	9,5
8	Sichuan	387	12,6
9	Hubei	363	11,3
10	Hunan	361	11,3
11	Shangai	327	7,5
12	Fujian	321	11,4
13	Beijing	290	7,7
14	Anhui	280	12,1
15	Inner Mongolia	260	11,7

Source: *China Briefing*

Figure 1: Chinese GDP Growth by Region in 2014



Source: *China Briefing*