Internationalization Strategy: Definition of the Market Selection Factors for Frontier Markets

Case Study of a Portuguese Trading Company

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Resumo

A seleção de mercados internacionais é uma ferramenta indispensável na estratégia de internacionalização das empresas, tendo um papel determinante na análise dos mercados de fronteira que representam um subgrupo dos mercados emergentes. Os mercados emergentes são caracterizados como mercados em desenvolvimento com indicadores de um saudável crescimento económico, enquanto que os mercados de fronteira são mais pequenos e menos líquidos. A seleção de mercados desenvolveu fatores apropriados para a análise dos mercados emergentes, mas não para a análise dos mercados de fronteira. Esta lacuna devia-se à falta de informação sobre estes mercados. Contudo, a internet possibilitou que este tipo de informação esteja agora disponível através de fontes públicas que apresentam dados que antes não estavam disponíveis.

Neste contexto, o principal objetivo desta dissertação, é o estudo dos fatores de seleção de mercados aplicados à análise dos mercados de fronteira. Através de um modelo desenvolvido para os mercados emergentes foi testada a aplicabilidade destes fatores no estudo dos mercados de fronteira. Este estudo foi realizado com base num estudo de caso. Foi escolhida uma empresa portuguesa de *trading* de bens de grande consumo (FMCG) que trabalha principalmente nos países de expressão portuguesa na África Subsariana, e que procura expandir a sua presença nos mercados de fronteira desta região.

Desta análise concluímos que os fatores indispensáveis na seleção de mercados de fronteira são os de análise de risco e de infraestruturas. Demonstrámos que os fatores de seleção de mercados emergentes são válidos na análise dos mercados de fronteira. Evidenciámos que os mercados de fronteira podem ser analisados, porque a informação necessária já está disponibilizada.

Palavras-Chave: Internacionalização, Seleção de Mercados, Mercados de Fronteira, África Subsariana, Empresa de *Trading*.

Abstract

International market selection is an indispensable tool in any internationalization strategy. It is used by companies to guide the decision process in the selection of foreign markets. Market selection plays a determinant role in the analysis of frontier markets. These markets are a sub-set of emergent markets. Emergent markets can be defined as less developed countries with indications of healthy economic advancement. Frontier market are smaller and less liquid than its emergent counterparts. Market selection theory has proposed factors and models for emergent markets, but not for frontier markets. This absence is justified by the lack of readily available public information for frontier markets, necessary for international market selection. This gap may change given that the internet has made market data readily available to the public.

In this context, our dissertation's primary objective is to study the market selection factors for frontier markets' analysis and determine which are the critical factors. We tested the applicability of emergent markets' selection factors in the analysis of frontier markets, using the case study of a Portuguese of fast-moving consumer goods trading company. The company works mainly in the Portuguese speaking countries in sub-Saharan Africa, but is now looking to expand to other frontier markets in this region.

We determined the critical factors in frontier markets' analysis are risk and infrastructural factors. We successfully showed that emergent markets' factors are suitable for frontier markets' analysis and that frontier markets can be analyzed in international market selection, since the necessary information is currently available.

Keywords: Internationalization, Market Selection, Frontier Markets, Sub-Saharan Africa, Trading Company.

Content

List of Figures

List of Tables

List of Acronyms

B2B	Business-to-Business
B2C	Business-to-Customer
CIF	Cost, Insurance and Freight
FDI	Foreign Direct Investments
FMCG	Fast Moving Consumer Goods
FOB	Free on Board
GDP	Gross Domestic Product
GNI	Gross National Income
GNP	Gross National Product
INVs	International New Ventures
MNEs	Multinational Enterprises
PPP	Purchasing Power Parity
R&D	Research and Development
SMEs	Small and Medium-sized Enterprises
TEUs	Twenty-Foot Equivalent Unit

1. Introduction

Since its inception, internationalization strategy had a disruptive impact in the World's economy. In the past, companies had a local reach, operating and supplying stable local markets. Yet, today's firms can operate at a global level since its formation (Hitt, Li, and Xu 2016).

In the beginning of modern international commerce, only large western companies could choose an internationalization strategy, since they were the only ones with the capabilities to do so. From 1950 to 1973, firms from developed countries were responsible for 66% of the growth of World trade. During this period developing countries were used as sources of primary commodities (United Nations Conference on Trade and Development 2018). The 1980s saw a recapture in World trade growth. This time, growth was supported by the rise of developing countries as players in global trade, especially East and South-East Asia countries (Hitt et al. 2006). This phenomenon led to a change in the import/export destinations seen in the 1970s. In the 1980s 25% of the share of World imports were to developing countries, but by 2016 developing countries were responsible for 50% of total imports (United Nations Conference on Trade and Development 2018). Currently, the so-called "developing" countries are now emerging, opening a new area for international trade. These dynamic times present a vital period for companies to re-think their strategic objectives and explore new areas, especially for smaller firms.

Emergent markets are an attractive investment because of their developing economies which "offer rates of return that are high relative to mature markets and offer opportunities for investors to diversify risk" as Nellor (2008, p.31) explained. There is no standardized definition of emergent markets in the literature (Nakata and Sivakumar 1997; Sakarya, Eckman, and Hyllegard 2007). Hence the definition adopted in this work is the one adopted by Nakata and Sivakumar (1997, p.463): emergent markets are "less developed countries with indications of healthy economic advancement". However, emergent markets also present higher risks when compared to developed countries (Brewer 2001).

Fernandes, Freund, and Pierola (2016, p.125) demonstrated that markets "where regulatory burdens and distortions in access to finance or information" exist, are correlated to a reduced survival rate of entrants. The emergent markets present these characteristics. Moreover, they are characterized as high risk markets, because of their fast changing nature (Craig and Douglas 2005). Since the survival rate of new entrants' dependents on market's conditions, a firm's successful internationalization in emergent markets must be supported on a well-structured strategy. The internationalization literature points to many aspects that influence firm's trade performance however, market selection is an often-overlooked aspect. International market selection is used by firms to guide the decision process in the selection of foreign markets (Brewer 2001), either to initiate an internationalization strategy or to expand the existing one (Papadopoulos and Denis 1988).

The international market selection literature attracted a lot of attention between the 1960s to the 1980s, side by side with other fields of internationalization. This allowed for a proliferate production of theories (Papadopoulos, Chen, and Thomas 2002). Unlike other fields, international market selection is context-dependent, therefore it has not been able to develop a generalized theory applicable to various industries and firms (Douglas and Craig 1992; Sarkar and Cavusgil 1996). Consequently, it is still a

fragmented field lacking empirical research (Papadopoulos and Martín Martín 2011). The internationalization business literature was, to a certain extent, guided by the challenges experienced by companies. Some of the literature developed is of a descriptive nature, reflecting the problem companies face in identifying factors, inhibiting the selection of international markets — a tool not commonly used by companies (Cavusgil 1985; Papadopoulos and Denis 1988).

1.1. Motivation

The motivation to work on the theme of international market selection stems from a still persistent problem in the literature in identifying the key factors that should be used in market selection. Normally, firms do not initiate internationalization in a proactive manner; instead firms start by filling unsolicited orders from international buyers or by responding to domestic clients' orders for the international market (Koch 2001; Brewer 2001). Thus, companies are led to the international market without a structured strategy. As Cavusgil (1985) concluded, this problem is explained by the companies' lack of international experience and resource involvement. Therefore, firms that are experienced have developed systematic and formalized approaches for international market selection and other internationalization procedures. However, inexperienced companies, typically small companies, will base their market selection solely on psychic distance (Cavusgil 1985; Johanson and Vahlne 1990; Koch 2001; Brewer 2001). The psychic distance concept will conduct a decision maker to begin an internationalization strategy by first entering countries with the smaller psychic distance (Johanson and Vahlne 1977, 1990). These markets are easily understood since they are similar to the decision maker's market. As the firms gains experience in international trade it will expand to other markets, with greater psychic distance. However, emergent market cannot be analyzed through psychic distance because of their unique characteristics that differ from developed countries. Moreover, in the emergent markets category there is a wide variety of realities. Therefore, a company cannot assume a policy of "one fits all" in the process of market selection.

When comparing domestic market analysis to international market selection both share the same fundamental principles of marketing research, yet international market selection is "inherently difficult in practice", as Papadopoulos and Martín Martín (2011, p.134) described it. The main causes are:

- The decision maker needs to be familiarized with contextual aspects of foreign markets in order to critically assess international market's data (Cavusgil 1985; Douglas and Craig 2011);
- Globalization has expanded the international market selection alternatives, creating a problem for decision makers since they have a limited capacity of processing information (Root 1994; Douglas and Craig 2011);
- The decision maker has a limited time frame and budget (Cavusgil 1985; Johansson 2009).

With this presentation of the main problems experienced by companies, it is perceptible that the factors chosen are the common denominator and can help to answer many of the problems identified.

We decided to focus our study on emergent markets because though they are the majority of countries in the World, yet they have not been explored as extensively in the literature as developed markets. There are three main reasons for this absence:

- Emergent countries are fast changing, often unexpectedly, at different rates and in different ways (Craig and Douglas 2005);

- Emergent countries lack public readily available information necessary for international market selection (Cavusgil 1997; Sakarya, Eckman, and Hyllegard 2007; Johansson 2009);
- International market selection is based on the analysis of comparable information which does not always exist (Papadopoulos and Martín Martín 2011).

The present work is focus on the analysis of a sub-group of emergent markets, the frontier markets. The frontier market concept describes countries that have markets which are smaller and less liquid than its emergent counterparts. Frontier markets may also present more instability coupled with greater future opportunities (Nellor 2008). The correct analysis of frontier markets requires specific factors that take into consideration the markets' characteristics. However, no in-depth analysis of emergent or frontier markets characteristics has been conducted in the literature. This poses the foundation for this study of the critical factors in the evaluation of frontier markets. Primarily, these markets are absent from most market selection literature because until recently no data was available to study them. The revolution that the internet brought to the market research field is the key driver for this project. It created an increase of public readily available data, especially for frontier markets (Johansson 2009). This poses the foundation for this study of the new data available to evaluate frontier markets.

1.2. Problem Definition

A correct analysis and selection of foreign markets becomes a crucial factor when a firm has a high dependency from international business to grow and prosper (Cavusgil 1985). For that reason, in this master dissertation we present a case study of a Portuguese trading firm, that we will refer to as Company A. The company is a small and medium-sized enterprises (SME) which works as an intermediary in the exporting process. Its core business is procurement and exporting of fast-moving consumer goods (FMCG). The company works primarily with the Portuguese speaking countries in Africa (namely Angola, São Tomé e Príncipe, Equatorial Guinea and Cape Verde) and South Africa. In terms of clients, it works with wholesalers from both the informal markets, i.e. street markets, and formal markets, i.e. retail stores. Currently, Company A is focused on expanding its operation in order to grow its business. It has opted to look for new trading opportunities in sub-Saharan Africa. The company has not been able to define the factors that should be taken into consideration in the market selection, because until now the entrepreneur's know-how was the deciding factor, and in the remaining sub-Saharan Africa markets' the entrepreneur has no experience.

Our sample of sub-Saharan African markets are identified by Standard & Poor's and Russel's Index as frontier markets (Standard & Poor's 2018; FTSE Russell 2019). The frontier markets have not been included in emergent markets literature, until the 2000s, because no data was available to study them. Thus, the following research questions are raised:

- Do market selection factors for emergent markets present an appropriate framework for market selection of frontier markets?
- What are the most important factors to study frontier markets in a market selection model?

In this master dissertation we are focused on studying the models and factors developed in market selection literature for frontier markets. Our objective is to perform an updated review of the critical

market research factors for these markets, accompanied by a model for a systematic market selection process in frontier markets.

1.3. Main Contributions

The research in this master dissertation has several contributions to the literature. Figure 1 represents the chosen methodology to perform the research.

Figure 1 - Methodology selected for the master dissertation

First, we conducted an in-depth review of models and factors identified in market selection literature for emergent markets. After, we analyzed the suitability of the previous factors on frontier markets, according to frontier markets features. Also, we researched for new factors that fitted these markets' characteristics. According to the most relevant literature, we chose a market selection model. We introduced to it the factors identified for frontier markets, obtaining a model for frontier market analysis. In order to teste it we adapted the model according to the characteristics of the case study, which is a mandatory step in every market selection model, given its context-dependent nature.

The in-depth review of market selection factors enables us to prove that emergent market factors are suitable for frontier market analysis. Additionally, we determined the critical market selection factors for frontier markets. This in-depth review allowed us to develop a framework with the required factors for frontier market analysis. Lastly, since no in-depth screening model in the literature had been fully developed, we developed the framework to allow this analysis of frontier markets. The developed framework included the previously determined frontier markets critical factors. Our analysis successfully showed that frontier markets can be analyzed since the necessary information is currently available.

1.4. Document Structure

This master dissertation is composed of six chapters. In the first chapter, we describe the background and context of the problem being studied. In this chapter, we described the study's motivation as well as the problem definition, where we summarized the objectives defined for this study. In the second chapter, we present a state of the art on the internationalization field of study. The review is divided in two parts, first an overview of the main topics of the field, followed by an in-depth review of international market selection. First, we present an overview of internationalization theory, where we present the main theories developed, followed by an overview of internationalization motives and entry mode options. The in-depth analysis of international market selection we reviewed the market selection models and factors used for developed and emergent markets. In the third chapter, we present the methodology used in this master dissertation. First in the chapter, we introduce the case study subject and sample. After, we present the model selected as well as the contextualization performed. The case study presentation allowed us to introduce the case study context, which is the basis of the model's contextualization procedure. In the fourth chapter, we present the results obtained from the model used and present a discussion on the results. In the fifth chapter, we present the conclusion. Lastly, in the sixth chapter, we discussed the future work derived from this master dissertation.

2. State of the Art

The state of the art is composed of two parts. It begins with an overview of internationalization theory, presenting the main theories and the context in which they were developed. We then further explore the main topics in internationalization theory: internationalization motives and entry mode options. The second part presents the market selection theory, with a focus on the factors identified in the literature. This provides the foundation for an in-depth analysis of the developed and emergent markets' market selection literature. This analysis allowed us to compile the emergent markets' factors. Lastly, we performed an in-depth analysis of emergent markets' factors suitability for frontier markets' analysis.

2.1. Internationalization Strategy

The concept of internationalization strategy has been described by different authors in the literature. Penrose (2009) presents the definition of "forward integration", a synonym for internationalization. Where a company enters a new market, aligned, or not, with the development of a new production system and/or new products. Turnbull (1987) describes it simply as the outward movement in a firm's operations. In the present work we adopt Calof and Beamisht's (1995, p.116) definition of internalization: "the process of adapting firms' operations (strategy, structure, resources, etc.) to international environments".

2.1.1. Evolution of Internationalization Theories

In the social sciences there is a co-dependency of theory and empirical work. The international business area is no exception. Theories were developed in a social, political and economic context to analyze phenomena, consequently they are continuously being redefined. In this section we explain the environment in which each internationalization theory was developed to allow the comprehension of the conditions inherent to it (Buckley 2011, 2016).

Sixty years ago, large multinational enterprises (MNEs) were the only ones with the capabilities to invest and participate in international business. MNE was defined by Buckley and Casson (1978, p.1) as "an enterprise which owns and controls activities in different countries". Meanwhile, currently SMEs and start-ups have become important actors in the international commerce (Kiss, Danis, and Cavusgil 2012). This change was in part due to technological advances that have transformed the communications system, associated with developments in the transportation sector, which enable a rapid expansion and increase competition at a global level (Hitt, Li, and Xu 2016).

After the end of the Second World War, there was a growth of MNEs that had a dominant role in the World's economy (Buckley 2016). Grosse (2005) reference Fayerweather to recall his label of the climate at the time between governments and MNEs as ''an era of confrontation''. The post-war governments did not comprehend this phenomenon of growing foreign firms in number, size and importance (Boddewyn 2016). The political reaction was one of suspicion and sometimes fear of the potential dominance of MNEs that sprawled over national boundaries (Buckley 2016). Many governments where reluctant to allow their entrance and even imposed major restrictions to their operations (Grosse 2005).

This climate allowed for significant theoretical developments, as Penrose's (1959) *The Theory of the Growth of the Firm*, Hymer's (1960) PhD dissertation *The International Operations of National Firms* and

Vernon's (1966) *International Investment and International Trade in the Product Cycle*. In these contributions, MNEs were seen as unitary and monolithic companies (Buckley 2016).

Penrose (1959) defined a critical concept of internationalization theory, “diversification”. She characterized it as horizontal or vertical integration. Internationalization was one of the forms of vertical integration. Also, described the marketing strategy of foreign entry mode. It can be diversification within the firm’s existing area of specialization — e.g., creation of more products in the company’s portfolio — or the diversification out of the firm’s area of specialization — e.g. production of new products based on new production technology. Hymer's (1960) theory of Monopolistic MNEs describes that MNEs only exist because of their own advantages over foreign competitors. Furthermore, in order for foreign direct investments (FDI) to succeed and thrive there had to be some “natural failures in markets for factors of production and intermediate goods or some interference by governments, as well as artificial market imperfections” as Boddewyn (2016, p.12) explained. Hymer (1960) defined foreign direct investments as “a form of capital movements in which the investor directly controls the foreign enterprise in which the investment is made”. Hymer was the first to make the crucial distinction between FDI — internalized transactions — and licensing — externalized transactions. This distinction was in terms of control and not of ownership (Buckley 2011). Vernon's (1966) Product Cycle theory suggested that firms sought internationalization for different reasons in different stages of a product’s life cycle. This theory introduced the concept of sequential modes of internationalization (Gandolfo 2014).

There were international business theories before these works. However, as Buckley (2011, p.72) explained, “the theory that existed was uncodified, unsystematic, fragmented and not institutionalized in an academic discipline.” After these first theories others followed. Caves (1982) with his Monopolistic Advantage theory suggests that firms will internationalize when they can use their established advantages in foreign countries at little or no additional cost, and Knickerbocker's (1973) Oligopolistic Reaction theory suggests that firms will try to reduce their risk by imitating competing firms’ entrance into foreign operations (Westhead, Wright, and Ucbasaran 2001).

The 1980s witnessed, after a period of “confrontation”, a period of “accommodation”. Governments came to understand the difference between capital-based ‘‘portfolio investment’’ and technology-bearing ‘‘foreign direct investment’’. This accommodation allowed MNEs activities to become legitimatized and welcomed, since FDI brought novel technologies, jobs and export revenues to host countries (Boddewyn 2016).

These mindset changes propelled new theories that sought an explanation on the nature of these firms, resulting in the further development of Coase's (1937) Markets Internalization Theory of the MNE by Buckley and Casson (1978) and Rugman (1980) (Knight and Liesch 2016). Coase's (1937) work *The Nature of the Firm* presented the internalization concept, as well as the concept of costs of transaction, defined as the costs incurred with the transaction of firm’s goods or services in the market, that do not occur when assets are exchanged within a firm. Based on the previous definition, Coase presents the concept of market internalization where a firm will decide to internalize a given market — its control —, if the transaction costs to the firm are lower than the transaction costs in the market. Based on this concept Buckley and Casson (1978) modernized this theory explaining that the decision process of

internalization of new markets was established through a trade-off of the benefits — from entering the new markets — versus the costs of entering said market. The benefits of internalization are the avoidance of imperfect markets (Buckley and Ghauri 2015). Buckley (2016) explained how Buckley and Casson's (1978) theory proposed that the key factor of MNEs growth was not market power but innovation. This notion transformed the understanding of MNEs, by presenting the MNEs in a different light than the one casted by Hymer's monopolistic theory, changing the public perception of MNEs. This finally led governments to develop appropriate policies that still remain to this day (Buckley 2016).

This period also saw other perspectives on internationalization theory being developed focused on explaining the rational process of the decision maker. They presented other key aspects besides the economic dimension. Moreover, they extended its theories for both MNEs and SMEs, that up to this point were barely acknowledged in the literature. Dunning's (1977, 1988) *Eclectic Theory of International Production* sought to identify the factors that guide the decision of MNEs to engage in FDI. The author constructed the Ownership-Location-Internalization (OLI) framework. It seeks to integrate internalization theory with location specific elements of international economies, such as labor costs, barriers to trade, and transport costs. This framework explains that internalization is the only option to combine ownership-specific advantages, the possession of exclusive assets by a company, with location-specific advantages, immobile resources that are specific to a country. In 1977, Johanson and Vahlne presented their first work on The Uppsala Internationalization Process model, a description of the internationalization process of small firms, which is characterized by a gradual increase of international involvement (Johanson and Vahlne 1977). This model was based on the concept of psychic distance between the domestic and the foreign markets. Johanson and Wiedersheim-Paul (1975, p.308) defined psychic distance as "factors preventing or disturbing the flows of information between firm and market. Examples of such factors are differences in language, culture, political systems, level of education, level of industrial development, etc." The authors theorized that a firm will start the internationalization strategy in markets that are psychically closer to the domestic market, which are easily understood by the company. As it gains knowledge and experience about foreign markets and operations, it will increase its resource commitment and expand to other foreign markets that are psychically more distant.

With the 1990s came a greater openness of markets and technological advances which led to the recognition of globalization as a phenomenon of the 2000s (Buckley 2016). In international trade, globalization refers to the integration of World markets for resources, e.g. commodities, services, and factors, partly due to the decrease in transport and communication costs (Gandolfo 2014).

The globalization environment created a proliferation of a different type of internationalization strategy characteristic of International New Ventures (INVs), defined by Oviatt and Mcdougall (1994, p.49) as ''business organizations that, from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries''. These types of firms are characterized by not following the typical stage model of internationalization (Vernon 1966; Johanson and Vahlne 1977). Instead they have, from foundation, a global strategy, typically guided by an entrepreneur with a vast experience in international trade who is able to spot opportunities at a global level. INVs are a new type of MNEs since they operate in more than one country (Buckley and Casson 1978). However, the

focus is not on FDI. Instead they have resources, like departments, in more than one country. They have been mostly associated with technological companies with innovative products, however INVs can appear in a wide range of industries, like aquaculture as Oviatt and Mcdougall (1994) indicated. Born global firms are a type of INVs. Knight and Cavusgil (2004, p.124) defined them as ‘‘entrepreneurial start-ups that, from or near their founding, seek to derive a substantial proportion of their revenue from the sale of products in international markets’’. These firms, with limited resources, internationalize within three years of inception (Knight and Liesch 2016).

The recent period has been characterized by an increased competition at a global level (Hitt, Li, and Xu 2016). Currently, production systems are conceptualized as global value chains intensifying the competition for FDI (Buckley 2016). Changes in the markets have lowered the entry barriers and allowed more firms to extend to international business earlier, quicker and with different patterns than the ones described by standard international business theories developed for MNEs. These companies are emerging in all corners of the World, facilitated by globalization, the Internet, and other communications innovations, which have reduced the cost of internationalization and enable the expansion of smaller and resource-poor companies (Knight and Liesch 2016).

2.1.2. Motives for the Internationalization of Companies

The previous theories were mostly developed for large Western MNEs. As a consequence, most of the motives for internationalization identified in the literature are also the motives for large Western MNEs (Tsai and Eisingerich 2010). Each firm, depending on its size, will have different strategic objectives and different assortments of resources that are reflected in different drivers for internationalization. However, the various motives that drive a company to enter the international commerce can be grouped into proactive or reactive motives, in terms of the company’s strategic orientation. Table 1 presents a list of motives, that we identified in the literature, which characterize the two types.

Table 1 - Proactive and reactive motives for internationalization

Proactive Motives	**Reactive Motives**
Managerial know-how	Competitive pressures
Product characteristics	Small or stagnant domestic market
Economies of scale	Unsolicited foreign orders
Exploit core capabilities	Risk diversification
Resource seeking	
Industry characteristics	
Foreign market opportunities	
Trade barriers	

We now describe in detail each of the previous proactive and reactive motives:

- Managerial know-how – a managerial urge for internationalization is many times driven by a manager’s previous experience in foreign trade. This was identified by Johanson and Vahlne (1977), at the time, as an overlooked factor in a company’s international strategy since it plays

a deciding role in a company's strategy in the international market. It is especially important for export success in smaller firms, like INVs start-ups, where decisions are made by a single decision maker (Oviatt and Mcdougall 1994).

- Product characteristics — a product that has common customer needs in different countries will motivate a company to internationalize its operations (Yip 1995). Typically, it requires minimal or no product adaptation, which is a facilitator factor in internationalization process. Agricultural commodities are prime examples of this type of product.
- Economies of scale — in order to obtain economies of scale a company must have a market-seeking strategy with a demand-oriented internationalization (Buckley and Ghauri 2015; Hitt et al. 2006). Economies of scale through mass production allow a higher profit margin by reducing the costs of production.
- Resource seeking — it is a supply-oriented internationalization, in which a firm sources specific resources that it cannot access in the home market. This can be because they are fixed input, e.g. cheaper labor costs and natural resources, or to enter into a research and development (R&D) center (Buckley 2016; Cui, Meyer, and Hu 2014).
- Exploit core capabilities — entering a foreign market to explore core capabilities (e.g. expertise knowledge) will allow a company to achieve competitive advantage and enhance its performance, as was explained in Dunning (1988) Eclectic Paradigm theory.
- Industry characteristics — a core strategy that does not need to be adapted and remains a competitive advantage in other markets will enhance the motivation for a company's internationalization. This motive will depend on the industry's characteristics, but also on the new country's characteristics, e.g. infrastructure (Yip 1995).
- Foreign market opportunities — psychic distance between the domestic and foreign markets is a critical aspect in foreign market entry selection that Johanson and Wiedersheim-Paul (1975) identified as a driving motive for a firm to first start an internationalization strategy.
- Trade barriers — a market which presents low trade barriers will motivate a company to internationalize (Yip 1995). Trade barriers are compose by government policies of FDI, tariffs, quotas, amongst others.
- Competitive pressures — a typical reactive motive for internationalization is entering the international market as a response to a competitor's entry into a foreign market. This reactive action has two components: first, there is the fear of losing domestic market share to the competitor, due to the economic scale benefit of foreign trade; second, the benefit of being the first in a new market, which allows to acquire market share easily.
- Small or stagnant domestic market — firms that operate in a small domestic market are focused on a market-seeking strategy which, as has been previously described, is focused on attaining economies of scale (Monczka and Trent 1991). Firms that operate in a saturated or mature market, as the Product Life Cycle theory explains, will begin foreign trade to obtain economies of scale (Vernon 1966).

- Unsolicited foreign orders — is characterized by a company filling orders from foreign buyers or intermediaries, e.g. trading companies. This constitutes an indirect mode of exporting (Koch 2001).
- Risk diversification — companies will invest in multiple countries allowing them to manage risk exposure by investing or divesting in specific markets (Rugman 1976).

The performance in foreign markets, either for supply purposes or even demand seeking purposes, will have a direct impact in a firm's performance in the domestic market. Therefore, all these motives have the same driving force uniting them: a need to gain competitive advantage.

These motives were presented independently, however they are not mutually exclusive. Many of the motives previously presented are linked. Moreover, a company could identify a market/product which presents two or more motives at the same time, motivating a company's internationalization.

2.1.3. Foreign Entry Modes

When a firm seeks to expand into a foreign market it must decide the best foreign mode of entry. However, this decision comes with a large pool of choices and possibilities.

When it comes to foreign entry modes there is no universal classification. Many researchers have defined the subject on different terms (Buckley and Ghauri 2015). Anderson and Gatignon (1985) defined various modes of entry based on the criteria of control, commitment and risk. The main focus was control, since it impacts commitment and risk, as it happens with most of entry mode literature. The issue of control raises the question of internalization that Buckley and Casson (1978) presented as the principle in which a MNE will choose the least-cost location for each activity, taking into account all activities. This work is based on the notion that a firm will internalize markets until the marginal cost and marginal benefits of further internalization are equal. These authors identified two critical aspects that firms face when choosing the mode of entry: location and control. Based on these two aspects, Buckley and Casson (1978) identified three main types of foreign entry modes: exporting, FDI and licensing. These three can then be comprised of many more combinations.

The following description of entry modes is a general one, but we aim to present the main characteristics of each mode without performing a full analysis. Typically, this topic is described in a simplified manner, since many variables come into play, and in order to analyze it they cannot all be considered. The notion of time is one that is not considered, thus the decision on entry modes that we present does not take into consideration the evolution of the mode through time.

- Licensing — through the licensing of technology, brands or production rights, firms obtain royalties. This strategy is mainly used when there is no incentive to internalize or because a firm lacks the capacity to do so (Dunning 1977). Licensing is often used for products that are R&D intensive, since these products encompass a valuable know-how, or in the case of brands that have a strong market position. By entering a new market through licensing, the company experiences low risk and low cost of investment. However, control plays a critical part — depending on the product licenses can be violated, and for that reason many companies do not exploit this option and keep the know-how in-house (Buckley and Casson 1978).

- Franchising — Brickley and Dark (1987, p.402) defined franchising as “equivalent to the leasing of an intangible asset (the brand name)”. Anderson and Gatignon (1986, p.5) defined franchising as “a form of licensing in which the use of a business system is granted.” Franchising offers a higher level of control than licensing, since the contracts developed with the franchisees have a system of rules that allows the franchiser to control the franchisee's activities (Anderson and Gatignon 1986). The franchisees have a stake in their business but do not have full decision rights. This aspect is important in order to keep quality and uniformity in the product/service. By owning part of their operation, the franchisees are encouraged to obtain high performing results since they are directly compensated. The decisive factor between franchising or a wholly-owned subsidiary is the cost of monitoring. Brickley and Dark (1987, p.420) concluded that between the two modes of control, franchising requires “high employee-monitoring costs, low initial investment costs per unit, and higher frequency of repeat customers”.
- Exporting — many times a company will start an internationalization strategy by simply exporting to a market through an independent representative such as an agent or distributor (Johanson and Wiedersheim-Paul 1975). In this case the product is produced in the domestic market and is exported to the new market (Caves 2007). This mode is ideal for companies with no international experience since it allows the company to understand the demand its products have in the new market, at a low investment cost and without the risk of entering an unknown market. Nevertheless, this mode grants limited control and it does not allow the company to gain export experience and market knowledge, which are key aspects for the success of an internationalization strategy, especially in SMEs (Johanson and Vahlne 1977). For that reason, many companies will export directly, avoiding agents or distributors altogether, as a way of obtaining experience and market knowledge (Buckley and Pearce 1979).
- FDI — is defined as an ownership strategy where an investor has direct control over its business in a foreign country (Hymer 1960). There are different strategies to enter a new market via FDI:
    - Green-field Entry — the creation of a wholly-owned subsidiary in a new market is chosen when the company wants full control of this new operation (Caves 2007). This is the mode that gives the highest level of control from creation (Anderson and Gatignon 1986). The product type also plays a critical role: green-field entry is typically seen in products with intellectual property that must be protected, or products that are difficult to sell and require a special sales service. This strategy allows to build a solid market position and implies a long-term market commitment. It is also sometimes chosen when the market has high entry barriers, like tariffs protecting the national market (Caves 2007). The main disadvantages are the costs of start-up, management and coordination of the subsidiary, and the risk of such a large investment in a new and uncertain market (Caves 2007).
    - Acquisition — a firm can choose to enter into a new market through the acquisition of a firm in that market (Buckley and Ghauri 2015). This strategy is most used to acquire the knowledge that is retained in a firm, e.g. know-how about the production of a product. This entry mode is especially important if the firm is expanding into new fields. This way,

the company can avoid costs of investing into a new business area, by acquiring an experienced team and technical labor force with the added benefit of buying a market position that would take years to build (Penrose 2009). Acquisition has the added benefit of granting the company with privileged information about the market they are entering, which does not happen with a wholly-owned subsidiary (Caves 2007). Like the green-field entry mode, acquisition is chosen when a company is entering a new market in a large scale and wants full control of the operations (Anderson and Gatignon 1986). This strategy presents disadvantages, however: it can only be performed by some companies, and requires a complex process of integration of the new company. Typically acquisition is performed within companies in the same industry, which allows profitable outcomes (Penrose 2009).

- Joint Venture — are partnerships between two or more companies to create a business allowing them to share the operation (Buckley and Ghauri 2015). The idea behind this strategy is the exchange of firm-specific knowledge between companies in order to develop a specific product and/or market. Hence, joint ventures can be used for R&D collaboration (Buckley and Casson 1996). The advantage in this strategy is the flexibility of investing in different business areas without compromising the core business (Buckley and Ghauri 2015). Also, if the venture is done with a partner that is familiar with the new market, it the risk of the investment is reduced (Caves 2007). The main disadvantaged is the shared control between the partners. Depending on the contractual agreement between the companies, the control can be unevenly shared, leaving the minority partner with a lack of control (Anderson and Gatignon 1986).

Most of the characteristics presented are encompassed in the size of the firm. Consequently, we can conclude that, to a certain extent, the size of the firm dictates the type of entry mode. As Buckley and Pearce (1979, p.18) concluded “ceteris paribus the larger a firm, the more likely it is to service foreign markets by production in those markets”.

2.2. International Market Selection

Market research entails decisions about marketing strategy and marketing mix. This research can be performed in both domestic and international markets. International market research is performed by companies in order to collect information about foreign markets, and also to comprehend the differences and similarities to the company’s domestic market (Craig and Douglas 2005). An international marketing plan has many steps such as market selection, product selection, entry mode strategy, and others. International market selection research is used by firms to guide the decision process in the selection of foreign markets (Brewer 2001), either to initiate an internationalization strategy or to expand the existing one (Papadopoulos and Denis 1988). Market selection is considered the most important step in the internationalization strategy (Papadopoulos and Denis 1988; Kumar, Stam, and Joachimsthaler 1994; Root 1994; Craig and Douglas 2005). Its importance stems from its determinant role in the strategy’s success, since it conditions all the following decisions, and, therefore, impacts the company’s competitiveness.

In this section, we first present an overview of international market selection theory in order to introduce the main branches of the literature. This will guide the market factors presentation that follows, since the factors chosen depend on the model's structure. Finally, we review the market selection theory for emergent and frontier markets, alongside the presentation of most important factors in the analysis of these markets.

2.2.1. International Market Selection Theory

International market selection has been characterized differently by authors. For Papadopoulos and Denis (1988), international market selection is focused on the process of market selection, excluding from its decision the "go/no-go" decision and the entry mode selection. The "go/no-go" decision analyzes whether the company should initiate an internationalization strategy (Andersen and Buvik 2002). For Douglas, Craig, and Keegan (1982) and Root (1994), however, international market selection should address all these decisions. This point of view is not widely accepted in the literature. Papadopoulos (1987) justifies that entry mode decision should be separated from market selection — even though entry mode decision depends from the selected market — because these decisions demand different variables and have different goals. In this work, we use Papadopoulos and Denis's (1988) definition of international market selection for the previously mentioned reasons, and also because it is the most used definition in the literature.

Market selection of international markets is still a fragmented field (Papadopoulos and Martín Martín 2011). In the literature it is sometimes referred to as international market selection or international market segmentation. These two stems differ only in the definition of market: international market selection characterizes it as country, while international market segmentation characterizes it on the basis of buyer similarity creating cross-national markets (Papadopoulos and Martín Martín 2011). We adopt the international market selection definition of market since the main focus of the analysis is the choice of a target country.

The internationalization field of study has primarily focused on the entry mode decision topic, overlooking the market selection aspect (Andersen and Buvik 2002). For example, The Uppsala Internationalization Process model and the Eclectic Paradigm theory present descriptive models of internationalization whose focus is on entry mode and not on market selection.

Papadopoulos and Denis (1988) presented a framework, depicted in Figure 2, that divides the research in two main groups: qualitative and quantitative. The former uses a descriptive approach that analyzes qualitative information about a restrictive number of countries. The latter uses a normative approach of analysis of statistical data, which allows the consideration of an unlimited group of countries (Andersen and Buvik 2002; Koch 2001).

The qualitative approaches are formed by a list of objectives and constraints, created by the decision maker, which are used to do the analysis. The main disadvantages of this approach are the exposure to biased opinions from the ones who provide information and advices, along with the exposure to the subjective judgment of the decision maker (Papadopoulos and Denis 1988). Andersen and Buvik (2002,

p.350) argue that “the decision maker will focus on incremental alteration of existing conditions, without knowing or even paying attention to how close to the optimal alternative the chosen increment really is.”

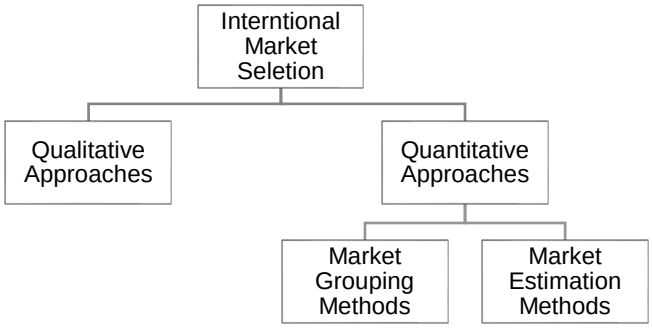

Figure 2 - International market selection literature structure

Unlike the previous one, the quantitative approaches are of a normative nature, describing a formalized decision process which allows a firm to understand how the selection process should occur (Andersen and Buvik 2002). These methods use statistical data which reduces the subjectivity problem. Also, enables the analysis of a large number of foreign markets. This is an indispensable aspect for international market selection which was another limitation of previous method (Douglas, Craig, and Keegan 1982; Kumar, Stam, and Joachimsthaler 1994). Papadopoulos and Denis (1988) categorized this approach in two kinds: market grouping and market estimation. Market grouping presumes the most appealing country is the one whose market is the most similar to the company’s domestic market. Market estimation evaluates a country’s demand and market potential on several criteria, analyzing them for their attractiveness.

Market grouping methods are based on the concept of psychic distance from the Uppsala Internationalization Process model. Countries are clustered together by their similarities since this proximity can bring market insight and allow the company to disseminate their products in numerous markets at once (Sakarya, Eckman, and Hyllegard 2007). Their main weakness is their inability to measure demand, given the absence of product specific factors. They are based on economic and social macro-level factors that, on their own, do not necessarily translate to market development (Papadopoulos and Denis 1988; Kumar, Stam, and Joachimsthaler 1994). As Douglas and Craig (2011) point out, countries can present similarities in terms of macro-level factors, e.g. economic development or urbanization, but have dramatic differences in terms of contextual factors, e.g. retail infrastructure or consumer behavior. The present objective is to perform an in-depth analysis and assess a country’s fitness for trade, which market clustering analysis does not allow, thus will not be selected (Cavusgil, Kiyak, and Yeniyurt 2004).

Unlike the market grouping methods, market estimation methods are based on market differences. Factors are selected to allow a comparative analysis of distinct markets, and a scoring method is developed to rank each market in order of preference (Papadopoulos and Denis 1988). This approach has addressed many of the shortcomings of the grouping methods. First, it allows the measurement of a country’s fitness for trade because it uses macro-level, as well as product specific and contextual factors (for example, market growth, trade barriers and more). Second, it is not based on the concept of psychic distance, presenting an array of opportunities of countries and markets that would not be considered in other methods. Moreover, it is the only approach, in the literature, with the capability to analyze each

markets' demand for a specific product. In the international market selection literature, the systematic market estimation approach has seen support by several different authors such as Moyer (1968), Samli (1977), Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Arnold and Quelch (1998), Craig and Douglas (2005), Sakarya, Eckman, and Hyllegard (2007) and Johansson (2009). This type of approach creates a framework for a supported and formalized decision making process that allows the decision maker to have a structured market selection process that guides her through each decision (Andersen and Buvik 2002).

However, the market estimation research presents a wide variety of systematic methods that we now discuss. Samli (1977) proposed a multiple factor index to measure total potential demand for Eastern European countries. In order to estimate consumption values inexistent in those markets, the author created a "Quality Index" based on the rate of development and quality of life. The values obtained from the index are adjusted based on the American market size, to the size of each market and consumption is extrapolated. Papadopoulos and Denis (1988, p.42) stated that the redundancy of many of the indicators used is one major drawback of the method. Another weakness is the extrapolation of consumer behavior, which discards the effect of contextual factors (Moyer 1968; Douglas and Craig 2011). To address this problem, Lindberg (1982) created a model based on macro-economic factors which looked to show a relationship between relative demand and the level of saturation in a market. Lindberg's model is of difficult applicability since it requires information that is not normally available, especially in emergent countries.

Due to the complexity of foreign market analysis it is advised to have the market selection process divided in phases. For that reason, the most used model in the literature is the sequential approach with three stages, adopted by Cavusgil (1985), Samli (1977), Papadopoulos and Denis (1988), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Koch (2001), Cavusgil (1997), Arnold and Quelch (1998), Sakarya, Eckman, and Hyllegard (2007) and Johansson (2009). The three-stage approach begins with the "preliminary screening" which is a general assessment of each country's market attractiveness, based on macro-level factors. The countries that do not pass this step are excluded from the analysis. The remaining countries go to the "in-depth screening" stage to assess each market's potential, ideally down to a specific market segment if possible. After this stage more countries may be excluded, which results in a smaller list for the "final decision". The last stage assesses the company's sales potential on each foreign market, based on the firm's objectives, resource constraint and internationalization strategy. This method has many advantages when compared to all the other models presented. The first selection stage allows the reduction of time spent on market selection, since less-attractive countries will not move to the in-depth screening which is a time-consuming phase. The method also allows for the analysis of a higher number of countries since the preliminary screening uses secondary data which is often readily available and free of charge in platforms like the World Bank or the United Nations (Root 1994).

2.2.2. International Market Selection Factors

Before initiating the in-depth study, the market estimation models need to be categorized since the model's objective influences the factors used. The market estimation literature can be organized in two

categories: product specific and country specific. The main difference is the factors used in the preliminary screening: country specific models only analyze general macro-level factors, while product specific models also analyze industry macro-level factors. By having a product orientation, the product specific models analyze product/market segments, resulting in the analysis of two variables that the company has to combine. In the country specific there is only one variable — the countries — with the product as a fixed variable. Cavusgil (1985), Samli (1977) and Johansson (2009) are examples of country specific models. For product specific models we can refer to Moyer (1968), Lindberg (1982), Root (1994), Kumar, Stam, and Joachimsthaler (1994) and Craig and Douglas (2005).

All authors agree that each model's factors should be adapted by companies to factors that better represent its industry characteristics and long-term strategy. Moreover, Root (1994, p.60) explained "managers should choose as indicators those economic/social statistics that most closely match the consumer/user profile of the candidate product". Given this context-dependent feature of international market selection, the literature identifies a wide variety of factors. Some authors have used different approaches from the three-stage sequential approach, as is the case of Moyer (1968), Samli (1977), Lindberg (1982) and Craig and Douglas (2005). We nonetheless mention them, since the main objective of this section is the identification of factors. Moreover, the researchers that have used the sequential approach do not agree on the factors that should be used.

We decided to organize this chapter presentation in the context of the three-stages model. Therefore, the factors identified in the literature will be introduced in one of the stages of the model according to the criteria they want to evaluate. The factors we will introduce will be presented by group and will not be fully detailed since the indicators and formulas of calculus are context dependent. In the present text indicator is used to refer to different type of data that can be used to analyze a factor (e.g. population indicator to analyze demographic factor). Therefore, this presentation aims at explaining the need identified in the literature for each group of factors, as well as the direct and indirect meaning that can be interpreted.

2.2.2.1. Preliminary Screening Stage

We begin by presenting the most common factors used in the preliminary screening stage. The use of macro-level factors in this stage has been a widespread practice in the international market selection literature (Cavusgil 1985; Root 1994; Kumar, Stam, and Joachimsthaler 1994; Craig and Douglas 2005; Johansson 2009). Douglas and Craig (2011, p.152) explain that "there is ample evidence that macro-environmental factors exert influence on underlying consumption values and behavior". To understand a country's market specificity and consumer patterns, the decision maker must first comprehend its demographic, physical, economic, political and social environments, since they condition individual and collective behavior.

Douglas and Craig (2011) presented the following group of factors:

- The physical environment is one of the basic conditioners of human behavior which influences most decisions, from food consumption to garment choice;
- The demographic environment presents the total potential demand of the market and its growth;

- The economic environment conditions consumers, e.g. in terms of their buying power, but also companies' operations in national and international markets;
- The social/cultural environment is a main influencer of consumer patterns, moreover it is specific to each country and one of the more difficult factors to measure in a representative way;
- The political environment has a major impact on industry's regulation and conduct, but also on the population's social conditions that dictate consumer behavior.

Even though these factors are being presented separately, they are interconnected. Therefore, the decision maker's know-how allows her to critically analyze and interpret international market selection results (Cavusgil 1985; Root 1994).

Since this phase is performed at a more macro-level, there is a harmony in terms of the factors cited in the literature. In particular, demographic, economic and social/cultural environment factors are stated in all the authors we previously mentioned. The reason for this coincidence is that all authors developed their models for export companies. However, authors differ on the products and consequently customers. For example, Root (1994) presented an "International Trade" category and "Product Specific" category that takes into account consumer/user profile, market size, level of competition and other factors. Since the objective of the next stage is assessing the market potential, that takes into account all these factors, they will not be presented now, but will be included in the next phase as the other authors did.

In the literature, it is not common to present a list of indicators since they will depend on each firm's context. However, there are indicators that are widely accepted for the factors previously mentioned. A fuller description of indicators measured in each of the previous factors is presented on table A1 (in appendix A).

2.2.2.2. In-depth Screening Stage

After market attractiveness has been calculated, more information is needed to measure target market potential in the in-depth screening stage. Generally, in this stage the factors analyzed are: consumer/user profile, market potential and trade barriers (Cavusgil 1985; Kumar, Stam, and Joachimsthaler 1994; Johansson 2009). In order to perform this market analysis, potential consumers need to be understood. Since consumption is shaped by contextual factors at the macro- and micro-levels, contextual factors determine values and attributes which create consumer segments across and within countries (Douglas and Craig 2011). This highlights the need to not only consider macro-level factors in the in-depth screening, but also micro-level and situational factors, which has not been a widespread approach in the literature. For example, Root (1994) in this phase only considers market factors, however his three-stage model is preceded by a phase of "Product Screening" where consumer characterization has been made — however, this is done based on domestic market consumers which is biased, since one cannot assume that customers in different countries will have the same needs (Moyer 1968). Authors like Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Craig and Douglas (2005), Johansson (2009) considered not only macro and micro-level factors, but also industry and product specific indicators.

The main factor in the in-depth screening phase is market potential, which depends upon current market size, market growth rate, future market size and level of competition. Market size is a key factor since

companies will look to invest in larger markets because they may bring a greater return (O'Farrell and Wood 1994); the market's growth rate will also determine market potential, especially when a country's total potential demand, i.e. population, may not be growing very fast. Yet, the growth rate of a specific market segment conveys a segment's potential (Douglas and Craig 2011). The level of competition can be measured by the indicators of number of competitor and their market share. On one hand a market where a small number of domestic companies operate signals a mature market that is more difficult to enter. On the other hand, a high number of players with small market shares reveals a more attractive market, especially if foreign firms have already successfully entered (Johansson 2009). Limits to trade allow to understand the openness of the country to a given product, company or country. It can be measured by tariff levels, quotas, as well as preferential treaties that each country may have.

In table A2 (in appendix A) we present a list of indicators for each of factors identified for the in-depth screening, as the most cited ones.

Van and Goolsby (1987) presented the factors most valued by exporters when performing international market selection and concluded that, regardless the industry, the decision maker considered that market potential, level of competition, and export restriction were indispensable factors to identify country-segments. Other factors like political environment, economic and technological advances and legal environment, vary in terms of importance according to the industry in which the exporting company operates. Kumar, Stam, and Joachimsthaler (1994) highlight these findings, in line with Cavusgil's (1985) research.

Depending on the industry, in the in-depth stage we can also evaluate operational factors such as the availability of intermediaries, regional and local transportation facilities, the availability of manpower and raw material and other aspects (Cavusgil 1985; Root 1994; Craig and Douglas 2005). This analysis will be valuable in the next stage where costs for every step of the new supply chain are calculated.

2.2.2.3. Final Decision Stage

Finally, we present the factors that are most used in the final decision stage. Most authors agree that in this stage the company's sales potential and profitability play a very important role (Cavusgil 1985; Root 1994; Kumar, Stam, and Joachimsthaler 1994; Johansson 2009). To compute sales potential and profitability, the decision maker must consider sales forecasting, landed cost, distribution cost, and any other country specific factor that may determine profitability. Export costs are a major component of a market's profitability, since it impacts the product's final price. Moreover, different destinations will have different landed cost. Therefore, the decision maker can even consider sourcing the product at different origins. Another aspect is cost of internal distribution, dependent on national infrastructure. This factor can determine a firm's entry mode decision. In table A3 (in appendix A), we present a list of indicators for each of factors identified for this stage. Kumar, Stam, and Joachimsthaler (1994) and Johansson (2009) suggest that the final decision process should be supported on the company's objectives, resource constraints, and internationalization strategy to create a ranking system. Root (1994) proposes a matrix system that also takes into consideration the entry mode strategy since this will influence the company profitability.

Our overview of market selection literature allows us to conclude that the most supported model in the literature is the three-stage sequential model. We identified that most researchers agree on the objective of each stage of the model, but disagree on the factors used. Therefore, there is not a standard three-stage sequential approach in the literature. This fragmented literature is a result of the context-dependency nature of international market selection.

Cavusgil (1997), Arnold and Quelch (1998) and Sakarya, Eckman, and Hyllegard (2007) all agree that the traditional market selection factors present some limitations in their applicability for emergent markets analysis. One major limitation is these markets lack of readily available statistical data. This limits the usability of traditional market selection models in the analysis (Moyer 1968; Cavusgil, Kiyak, and Yeniyurt 2004; Craig and Douglas 2005). In order to analyze the veracity of this statement we must first introduce the concept of emergent markets. This will conduct the selection of emergent market factors, which will be presented in the next chapter.

2.2.3. International Market Selection for Emergent Markets

In this section, we first present the definition of emergent markets followed by a review of the factors, presented in the previous section. We evaluated the correlation of the factors from the previous section to the analysis of emergent markets. The emergent market definition supported this evaluation by providing the characteristics that define these markets. After, we reviewed the market selection theory of emergent markets to verify if the selected factors are being used in the theories. This review also uncovers other factors that are being used in the analysis of these markets. Finally, we obtained the factors selected for the international market selection of emergent markets.

2.2.3.1. Definition of Emergent Market Concept

The emergent markets concept was created in the 1980s by the International Finance Corporation — a member of the World Bank Group — to characterize countries which were still developing, yet their stock markets were evolving and developing the features of a mature stock market from a developed country (Nellor 2008). At the time the term replaced concepts like “developing countries”, “less developed countries”, “third world countries” and others (Arnold and Quelch 1998; Sakarya, Eckman, and Hyllegard 2007). Currently, this term does not have an established definition. Consequently, it is measured differently by different financial institutions. Such is the case of Standard & Poor’s — which took over the International Finance Corporation measurements of emergent markets — and the Russel Index of Country Classification (Standard & Poor’s 2018; FTSE Russell 2019). Both Standard & Poor’s and Russel’s Index, in their measurements, analyze economic, market and regulatory environments, amongst other factors that assess market’s stability and freedom in the stock markets.

Likewise in the literature there is not a standardized definition of emergent markets (Nakata and Sivakumar 1997; Sakarya, Eckman, and Hyllegard 2007). Nevertheless, there are common characteristics that are used to define it. As Nakata and Sivakumar (1997) explained, the definition of “less developed countries” given by Samli and Kaynak (1984) is an accepted one. Samli and Kaynak (1984) defined them as countries with rapidly growing population with low levels of income per capita, which are built on an agrarian economy with a low rate of economic growth. The emergent markets have a

defining characteristic that grants them the term emergent. That is a long-term market growth potential, based on a rapidly growing population with an increase in purchasing power derived from an increasing economic freedom (Cavusgil 1997; Nakata and Sivakumar 1997; Arnold and Quelch 1998; Sakarya, Eckman, and Hyllegard 2007; Freeman and Sandwell 2008; Kvint 2009). The emergent markets definition we use in the present work is the same adopted by Nakata and Sivakumar (1997, p.463) of "less developed countries with indications of healthy economic advancement". Cavusgil (1997), Arnold and Quelch (1998) and Kvint (2009) also added the dimension of political transition, e.g. end of dictatorship, which conducted an economic and social transition. Unlike the previously mentioned institutions, in the literature the factors that characterize emergent markets are of macroeconomic nature and look to assess a country's economic development — e.g. average gross domestic product (GDP) per capita — and its pace — e.g. GDP growth rate. Also, many authors also consider markets' governance model, as well as their stability and freedom (Arnold and Quelch 1998; Sakarya, Eckman, and Hyllegard 2007).

2.2.3.2. International Market Selection Factors for Emergent Markets

Based on the research developed in previous section we analyzed if there were factors that were only used in the analysis of emergent markets. This analysis allowed us to detect that some factors were only used in the analysis of emergent markets. This was deduced by the analysis of the model's sample. These factors were only selected when a given theory analyzed both developed and emergent markets, and were not selected when a theory only analyzed developed countries. The models which analyze both markets were Cavusgil (1985), Root (1994), Craig and Douglas (2005) and Johansson (2009). In their models these researchers either do not specify a country sample and/or use examples of both developed and emergent markets. We concluded the factors that are required for emergent market analysis are risk factors, infrastructure factors and cultural distance factors. Cultural distance measures the psychic distance of a company's home market to the new market (O'Farrell and Wood 1994). The risk factors are composed of factors that analyze political, legal and economic/financial risks. Infrastructure factors are composed of factors that analyze the country's infrastructure. As Craig and Douglas (2005, p.93) explained this includes "physical transportation structure, the retail distribution network and the communication infrastructure, as well as the availability and cost of certain basic resources such as electricity". These factor groups will be now presented in detail.

The presentation begins with the examination of risk factor group. The political risk factor was defined as the analysis of political stability. As Johansson (2009) clarified, this examination should understand the likelihood of war, insurrection and terrorism, since all these factors have a direct impact in the economic climate of a country. The legal risk seeks to understand trade barriers. It includes the analysis of trade block membership and tariff and non-tariff barriers, e.g. quotas, importing licenses, amongst others (Craig and Douglas 2005). A country's attitude towards FDI, e.g. protectionist laws, depending on the researcher can be analyzed either as a political or legal risk. For Cavusgil (1985), Root (1994) and Johansson (2009) it is included as a political risk since it is a governmental position. For Craig and Douglas (2005), it should be included in the legal analysis since it presents itself as another barrier to international commerce, which is this category objective. In the present work a country's attitude towards FDI was included in the political environment category since it was the only indicator in the legal category which was not product specific — see on table A1 (in appendix A). The last risk dimension is

economic/financial risk. This risk analysis is typically focused on a country's currency stability. All researchers agreed on the indicator which should be analyzed in this factor. It is currency exchange rate stability, since it reflects a country's economic stability. For Cavusgil (1985) and Craig and Douglas (2005), it should also be analyzed the currency availability and control, and also the inflation rate. The researchers selected these additional indicators because they have a direct impact on a company's profitability in the country.

Cultural distance is a widely accepted indicator that is typically used in market entry decisions. This indicator is used in the analysis of both developed and emerging markets. Hofstede's (1991) work defined culture as being composed of four dimensions: power distance, uncertainty avoidance, individuality and masculinity/femininity. It is the most used framework in the business literature to analyze cultural distance (O'Farrell and Wood 1994). However, Hofstede's framework has limited applicability since it does not present data for emergent and frontier markets (Cavusgil, Kiyak, and Yeniyurt 2004). Therefore, some researchers, as is the case of Cavusgil (1985), Root (1994) and Johansson (2009), analyzed cultural distance only by examining similarities and differences in relation to company's home market. Analyzing mainly the language, religion, ethnicity, social norms and other cultural considerations. Cultural distance enables the understanding of aspects that dictate consumer behavior and expectations as well as business conduct in each country (Craig and Douglas 2005). All these aspects pose a risk to a company's operations. Consequently Cavusgil, Knight, and Riesenberger (2017) included culture distance as another dimension of risk analysis. In the present work this will also be the approach, including culture distance as an indicator of the risk factor group.

Infrastructure factors were only used by Root (1994), Craig and Douglas (2005) and Johansson (2009). According to Craig and Douglas (2005) the infrastructure factor group is composed of the following dimensions:

- Basic infrastructure which examines the reach and availability of the electric system, piped water system and sewage system;
- Physical transportation structure which analyzes the sophistication of the distribution network and operators in the industry, researching the quality of roads and the percentage of paved roads or the third-party logistics industry in the country;
- Retail distribution network which examines the commercial infrastructure, the number of retail stores and the street markets importance in the country;
- Communication infrastructure which analyzes the existence of mobile telephones, television and computers per capita, as well as internet coverage in the country.

The infrastructural aspects analyzed in each of the previous dimension will vary according to the industry in which the decision maker works. The indicators presented are examples and were the most cited by the researchers.

The previous presentation of these factor groups allows us to understand that the factors purposed are in accordance with the definition of emergent markets. Emergent markets are characterized by economic and political instability due to political transition. They present a higher political risk to the investor, when compared to developed economies. Therefore, a risk analysis in an indispensable factor in

emergent market analysis. Moreover, as Cavusgil, Knight, and Riesenberger (2017, p.230) clarified, these countries are “experiencing rapid industrialization, modernization”, which reflects the infrastructural development these countries are suffering. Infrastructural limitation directly impacts company’s operations, in the limit, making it impossible for a company to operate in a market.

Finally, we conclude that risk and infrastructural factors represent the key factors that must considered in the analysis of emergent markets. In the next chapter the study of emergent market factors is directed to models developed only for the analysis of emergent markets. This research allows us to verify if the selected factors are an accepted standard in emergent market analysis. Moreover, it will try to uncover more factors used in emergent market analysis.

2.2.3.3. Factors in Emergent Market’s Selection Models

In the literature we identified the following works as emergent markets models: Moyer (1968), Samli (1977), Arnold and Quelch (1998), Cavusgil (1997) and Sakarya, Eckman, and Hyllegard (2007). Therefore, our analysis of the presence of previously identified factors in emergent markets models is focus on these models.

Moyer's (1968) work presented a multiple factor index that addressed the context-dependent feature of international market selection and the lack of comparable data of emergent markets. This model is a product-specific approach that uses indirect factors — selected by intuition, experienced judgement, or statistical analysis — to measure a market’s potential (Papadopoulos and Denis 1988). Moyer did not include in his model any political or economic/financial risk indicators as well as infrastructure factors. Even though the author did not include a cultural distance indicator and legal risk factors, he alerted for their influence in the model’s outcome.

Samli's (1977) work is focused on emergent markets and it looks to fill the gap in consumer purchasing data for emergent markets. It is based on the extrapolation of consumer behavior from the United States of America to the Eastern European markets. From the factors presented in the previous section, this model only included the infrastructure factors, which were the model basis.

Arnold and Quelch (1998) presented a framework which assists decision makers in the internationalization process. This model aids in several decision stages, from market selection and product policy to entry mode and timing. The framework presented a new marketing rationale that adapted the traditional assumptions in marketing selection to the emergent markets’ characteristics. The model is based on the three-stage sequential approach, though the preliminary screening stage has a different end goal. Arnold and Quelch’s approach differs from the sequential model in the time frame, since it is a long-term assessment.[1] For the other two stages of the three-stage model, the authors proposed the same approach as the three-stage sequential model. Arnold and Quelch's (1998) model does not initially discriminate by political or economic risk, but rather focuses on the long-term potential. However, Arnold and Quelch (1998, p.10) reinforced that “despite the long-term attractiveness of emergent markets, there

[1] To assess a market’s long-term potential, Arnold and Quelch’s (1998) model takes into account the country’s population and its expected growth, as well as GDP per capita in emergent markets and the country’s GDP adjusted to the Purchasing Power Parity (PPP) level. The first two factors capture the long-term increase in consumers the market is likely to experience, and the last two represent the market’s relative stage of economic development.

are reasons to delay entry". The authors cited the political, economic instability and legal risks as key reasons for delaying entrance in these markets. Moreover, Arnold and Quelch (1998, p.9) highlighted the difficulties of a basic marketing infrastructure in these markets since there are "nonexistent or poorly developed distribution system, relatively few communications channels and a lack of regulatory discipline". The researchers believe that a short-time assessment based on risk factors can exclude countries. This can happen particularly for emergent markets, which in the near future are not as attractive as developed markets. They justify the exclusion of these factors from the market selection model because of emergent market's lack of readily available statistical data. However, we believe that the absence of information should not result in the exclusion of factors from the analysis. Moreover, there are other ways of obtaining information, depending on the factors, it can be from market research firms, trade fairs or even local visits (Cavusgil 1985). Additionally, Arnold and Quelch (1998) recognize that risk factors are indispensable in the analysis and introduced them as part of the final decision of country's entering timing.

Cavusgil (1997) developed the Market Potential Index framework to guide decision makers in the calculation of emergent markets' attractiveness. In the model the factors are combined to calculate a country's overall market opportunity index, providing an aggregate measure of attractiveness (Cavusgil, Kiyak, and Yeniyurt 2004). The author developed a ranking model which quantifies and rates countries, allowing a comparative analysis between emergent markets (Sheng and Mullen 2011). The factors used were defined by the author, from the viewpoint of western decision makers, as the necessary to measure emergent markets overall attractiveness (Sakarya, Eckman, and Hyllegard 2007). It used thirteen indicators to evaluate seven factors: market size, market growth rate, market intensity, market consumption capacity, commercial infrastructure, economic freedom, and market receptivity (Cavusgil 1997). Weights were attributed to each factor to convey its importance in the overall attractiveness. The weights were calculated by a Delphi process performed with international business professionals and educators. Cavusgil (1997) model's sample used 23 of the 25 countries present in *The Economist*'s list of emergent countries, excluding two countries due to data unavailability. The framework developed is a general measure of overall attractiveness. Consequently, it is only applicable to the preliminary stage, the first stage on the previously mentioned three-stage sequential model (Cavusgil, Kiyak, and Yeniyurt 2004). Cavusgil recommends the other two stages of the three-stages model to be based on Cavusgil's (1985) work. Cavusgil's (1997) work provided a ranking framework that allowed emergent markets to be compared for the first time, in a simple and systematic way. This framework extended Cavusgil's (1985) model to the emergent markets, and addressed the main problem identified in the emergent market's literature — the lack of comparable statistical data — by providing a reference of indicators that could be used to evaluate these markets. The model contributed with a simplification of the complex process of evaluating emergent markets by creating a framework that can be easily customized (Cavusgil, Kiyak, and Yeniyurt 2004).

Cavusgil's (1997) only included the infrastructure and legal risk factors in his model. The infrastructure examination included the analysis of the physical transportation structure, retail distribution and communication infrastructure. Cavusgil (1997) recognized the need for indicators of commercial, monetary, and political risk which were later introduced in the Cavusgil, Kiyak, and Yeniyurt (2004) model. The

analysis of cultural distance was absent from both Cavusgil's (1997) and Cavusgil, Kiyak, and Yeniyurt's (2004) models.

Lastly, Sakarya, Eckman, and Hyllegard (2007) presented a market selection model for emergent markets which also recommends the sequential three-stage model. However, in order to evaluate emergent markets dynamism and future market potential, it introduced four criteria prior to the preliminary screening stage. Based on Arnold and Quelch's (1998) model, the authors proposed the long-term market potential previously presented. A competitive analysis of the industrial sector based on Porter's (1990) work is also included. To measure cultural distance, they used Hofstede's (1991) cultural dimensions, using Kogut and Singh's (1988) formula, however this formula has received criticism. Sheng and Mullen (2011, p.178) tested the index and concluded that it "is not a significant strong predictor for either total exports or exports in any of the industries studied". Cavusgil, Kiyak, and Yeniyurt (2004) highlighted, Hofstede's (1991) work has limited applicability since it does not provide data for emergent markets. Hofstede has continued to update his work, adding new dimensions and countries. However, many of the frontier countries are still not included.

The fourth criterion is a new dimension that is introduced by Sakarya, Eckman, and Hyllegard (2007) in the emergent market literature: customer receptiveness to the foreign product and industry. Traditional market selection models have considered customer receptiveness only in the in-depth screening phase. The exception is Johansson (2009), who also introduced a new stage to the three-stage model, in which customer receptiveness is considered. Cavusgil (1997) included a market receptivity factor in his model, which captures market restrictions to trade based on general export data but does not provide product-specific data, i.e. actual customer receptiveness to a product. Sakarya, Eckman, and Hyllegard (2007, p.220) proposed a survey to study "host country customers' views on the impact of the specific foreign business activity on economic and social development, their acceptance of its products/brands, as well as their perceptions of its offers with respect to local and other foreign businesses in the same industry". This addition seeks to introduce a product receptiveness analysis, basically a product risk analysis in the market, complementing the risk assessment of economic and political factors that the author recommends in the next stage, the preliminary screening stage. However, this indicator can only be operationalized under specific condition. It requires a lot of resources to conduct a survey in multiple countries. Also, its feasibility depends on sample size. Nevertheless, we consider this would be a relevant indicator to include in the in-depth stage, which is a product specific phase, and where a company has eliminated some countries and has a more manageable sample to analyze in detail.

Next, we present two works which are outside of the previous model's rational, three-stage sequential models for market analysis, but nevertheless make a relevant contribution to the present research on emergent markets factors.

Khanna, Palepu, and Sinha (2005) identified the absence of institutional intermediaries — specialized intermediary firms and regulatory systems — in international market selection models as the reason why companies often target the wrong countries. According to Khanna, Palepu, and Sinha (2005) institutional intermediaries analysis includes the analysis of political and social system, openness of the country for FDI, product market, labor market and capital market. Khanna, Palepu, and Sinha (2005)

explained that this analysis is especially important in emergent markets, which normally have an undeveloped, or even absent, infrastructures of "auxiliary institutions together with ineffective regulatory systems and contract-enforcing mechanisms" (Douglas and Craig 2011, p.157).

Khanna, Palepu, and Sinha (2005) argue that an international market selection model should first focus on the analysis of these institutional intermediaries. Only after this first selection stage a company should focus on the analysis of industry specific factors. Craig and Douglas (2005) were the only researchers, in the ones previously presented, which mentioned all the "soft" infrastructure Khanna, Palepu, and Sinha (2005) recommend in their model. Douglas and Craig (2011, p.157) present an interesting example of the impact of these "institutional voids" on the rural areas of emerging markets countries:

> "Product and market regulations are often poorly developed or followed, and more importantly are enforced locally. Inefficient judicial systems and variability from one location to another mean that there is considerable uncertainty about contracts with distributors, as well as regulation relating to retail price maintenance, product or brand counterfeiting promotion or advertising claims and other deceptive practices."

Typically companies in developed countries do not understand the importance of this "soft" infrastructure in their business, consequently do not consider them in the analysis of emergent markets (Buckley and Ghauri 2015). Khanna, Palepu, and Sinha (2005) referenced McKinsey 2004 Global Survey of Business Executives that analyzed senior managers priorities in international market selection. In this survey 61% said that market size and growth was their primary concern, 17% prioritized political and economic stability as the main concern, and only 13% prioritized the institutional context.

Ghemawat (2001) presented an international market selection framework with a different perspective, by performing a bilateral analysis of the factors. It steers away from the classical models used whose focus is the economic dimension. Instead Ghemawat (2001) focus is on risk and costs analysis (Ghemawat 2018). For Ghemawat (2001), this analysis can be performed by the qualitative analysis of the cultural, administrative/political, geographic and economic distances between the company's home country and the countries in analysis. This framework is called the CAGE distance framework, the name derived from the four dimensions it analyzes. The analysis of the distance experienced between the company's environment, the product's environment and the target markets environment allows a bilateral analysis of each factor (Ghemawat 2018). Unlike, all the previously mention works which presented an unilateral analysis of countries attributes. Instead of treating countries as independent objects, this model builds on the notion that countries "should be treated as nodes embedded in a network at varying distances from each other" as Ghemawat (2001) explained.

The review of factors used in models, developed for both developed and emerging markets, allowed us to conclude that the two factors — infrastructure and risk analysis — identified as specific for emergent market analysis presented different levels of support in the literature. Also, we identified that no model, developed for emergent market, had the third stage adapted for emergent market selection.

From the risk group factor was the most supported factor — in particular political, legal and economic/financial risk indicators. These indicators were used by all the researchers reviewed, except by Samli (1977). This absence can be explained by the paper focus. Some researchers, like Moyer (1968) and Arnold and Quelch (1998), did not use risk factors in their models but still acknowledged their impact in

the model's outcomes. Consequently, we can conclude that the risk group factor is an indispensable group which needs to be considered for emergent market analysis in the preliminary screening. However, the preliminary screening is not product specific, and the trade barrier analysis needs to take into consideration the product restrictions. Therefore, the trade barrier analysis can only be performed in the next stage, since this is product specific.

The long-term market analysis proposed by Arnold and Quelch (1998) is a specific indicator of the economic factor group in the preliminary screening phase. This indicator is not specific of emergent markets since it is cited in most international market selection literature. However, it is particularly important for emergent market analysis since they present a bigger future growth potential than developed countries (Arnold and Quelch 1998; Moyer 1968).

The infrastructure group factor was the second most mentioned group factor. The infrastructural factors were the basis of some models, like Samli's (1977) model. However, they were absent from the most cited model, Cavusgil's (1985) work. This absence was addressed in Cavusgil's (1997) model, which by being developed solely for emergent markets, featured the infrastructure group factor. Arnold and Quelch (1998) acknowledged the impact of infrastructure factors on the model's outcomes, even though they did not use these factors. Khanna, Palepu, and Sinha (2005) work expanded the notion of physical infrastructures, as a limiting factor in company's operation in emergent markets, to the notion of institutional infrastructures as the limiting factor. This was a disruptive perspective on international market selection for emergent markets. Therefore, the institutional infrastructures identified by Khanna, Palepu, and Sinha (2005), as well as physical infrastructures, will be included by us as factors specific of emergent market analysis in the preliminary screening stage.

In the emergent market's literature, cultural distance was the least used. Most of the researchers recommend an analysis of cultural distance, without formulas, based on the analysis of distance in terms of language, religion, ethnicity, social norms and other cultural considerations. Therefore, we include cultural distance as a required indicator for emergent market analysis in the preliminary screening phase.

We have now ended the review of the factors and models used in the analysis of emergent markets. However, the present work focus is the identification of the factors used in the analysis of frontier markets. Consequently, in the next section we review the factors and models developed for the analysis of frontier markets. We also analyze the fitness of factors identified in this chapter in the analysis of frontier markets.

2.2.4. International Market Selection for Frontier Markets

In this section, we first presented the definition of frontier markets, followed by a review of the factors, presented in the previous section. We evaluated the correlation of the factors from the previous section to the analysis of frontier markets. The frontier market definition supported this evaluation by providing the characteristics that define these markets. It also assisted in the research for new factors for frontier market analysis. Finally, we obtained the factors selected for the international market selection of frontier markets and presented a framework for international market selection of frontier markets.

2.2.4.1. Definition of Frontier Markets Concept

Due to the heterogeneity of countries that were considered under the emergent markets label, the International Finance Corporation developed the concept of frontier markets to organize them. Frontier markets are, essentially, a sub-set of emergent markets, as it describes countries that have markets which are smaller and less liquid than their counterparts. Frontier markets may also present more instability, but present greater future opportunities (Nellor 2008). The sub-Saharan African markets are characterized as frontier markets by Standard & Poor's and Russel's Index.

In recent times, both emergent and frontier markets have experienced profound changes. Many of the traditional emergent markets have now superseded the concept. Markets like Israel or Hong Kong were in the emergent markets category in the 1980s, however nowadays they are largely considered developed economies (Cavusgil 1997; GlobalEDGE 2018a). In Africa, the only emergent market identified in the 1980s was South-Africa (Nellor 2008). Currently, institutions as well as researchers have added more frontier markets, like sub-Saharan markets such as the Democratic Republic of Congo, Ivory Coast, Ethiopia, Ghana, Nigeria, amongst others, to the emergent markets list (GlobalEDGE 2018a; Standard & Poor's 2018; FTSE Russell 2019).

2.2.4.2. Factors in Frontier Market's Selection Models

In the literature we did not identify an international market selection model developed only for the analysis of frontier markets. Given that frontier markets are a sub-set of emergent markets, the models developed for the analysis of emergent markets may also be used in the analysis of frontier markets. From the emergent market models previous presented, only one model had in its sample frontier markets. This model was Cavusgil's (1997) model. When it was developed it focused only on the analysis of emergent markets, however through the years it extended its reach and now analyzes developed, emergent and frontier markets (GlobalEDGE 2018a).

In this section we analyze the fitness of the previous identified emergent markets factors in the analysis of the frontier markets. Additionally, we took into consideration the characteristics of frontier markets and uncover new and more specific factors and indicators for the analysis of frontier markets. This last analysis is supported on the most recent work of Craig and Douglas (2005), Johansson (2009) and Cavusgil, Knight, and Riesenberger (2017) which analyzes frontier markets' characteristics.

First, we will analyze the suitability of the risk factor group in the analysis of frontier markets. Typically, frontier markets present a moderate to high country risk, whereas emerging markets typically present moderate country risk, according to Cavusgil, Knight, and Riesenberger (2017). Country risk included political, legal and economic/financial risk. Cavusgil, Knight, and Riesenberger (2017) and Johansson (2009) consider indispensable the analysis of country risk level in frontier markets analysis. For this reason, Johansson (2009) suggests that the country risk analysis should be the predecessor step of an international market selection model, in frontier market analysis. This is the principal factor commanding the selection, deciding if a country should be analyzed or be excluded before the analysis begins, because the risk was considered too high by the company standards. In frontier markets, like African markets, political stability has be a recurrent problem, but now also terrorism has become another

contributing factor. For example, Boko Haram in Nigeria (Craig and Douglas 2005). Therefore, we can conclude that country risk must be included in frontier markets analysis.

The currency control executed in nonconvertible currencies[2] is a risk that characterizes frontier markets currencies and does not affect convertible currencies, normally used in emergent or developed countries. This is a known problem in frontier markets which must protect against capital flight[3]. In Angola since 2014, when the price of oil decreased and the country experienced a domestic crisis, there were restrictive controls on the country's currency to avoid "capital flight". According to Cavusgil, Knight, and Riesenberger (2017), in frontier markets' analysis, the economic/financial risk group should also analyze the type of currency. Therefore, in frontier markets economic/financial risk includes the analysis of stability of exchange rate, currency type, currency availability and control, and also the inflation rate.

The emergent markets are also becoming attractive markets for exporting or FDI, because of the reduction in trade barriers and FDI barriers, allied to industrialization of the economy, increase in living standards and increase in the size of middle-class. Unlike their counterparts, the frontier markets still present high barrier (Cavusgil, Knight, and Riesenberger 2017). Therefore, the legal risk factors are necessary indicators in their analysis. These high barriers can be explained by protectionism. Typically, the government in these countries either have direct participation in the market, for example with state-own enterprises, or by applying protectionist barriers to trade to protect the countries industry and market (Johansson 2009; Cavusgil, Knight, and Riesenberger 2017). Normally, in developed economies the markets are liberalized, and governmental intervention is more contained. In emergent markets a process of privatization and promotion of new, privately owned businesses have allowed the attraction of FDI (Cavusgil, Knight, and Riesenberger 2017).

Also, trade barriers remain an indispensable indicator in frontier market analysis. There are a variety of trade barriers a country can use to undermine the intervention of foreign companies in its economy, depending on the country's context. They can be tariffs to protect the infant industry in the country which cannot compete with players from other, particularly developed economies. Tariffs on imported products will typically result in an increased sell price for foreign products. Also, quotas which are quantitative import restrains which a country can use, for example in a given crop, to lead the consumers to buy it from the local farms (Cavusgil, Knight, and Riesenberger 2017). In terms of FDI barriers, as Cavusgil, Knight, and Riesenberger (2017, p.204) explained, there are ownership restrictions which "limit the ability of foreign firms to invest in certain industries or acquire local firms".

Cultural distance remains a relevant factor in the analysis of frontier markets, since it is a measure of cultural risk. Additionally, Samli, Still, and Hill (1993) and Cavusgil, Knight, and Riesenberger (2017) highlighted that frontier markets are characterized for being multilingual, multinational and multicultural, contrasting with developed countries which present a single language and nationality. Therefore, frontier

[2] There are two types of currencies: convertible currencies which can be easily exchanged in the market, e.g. British pound, European euro, Japanese yen, and American dollar; and nonconvertible currencies which cannot be exchanged in the market (Cavusgil, Knight, and Riesenberger 2017).

[3] As Cavusgil, Knight, and Riesenberger (2017, p.264) explained capital flight is defined as "the rapid sell-off by residents or foreigners of their holdings in a nation's currency or other assets. This usually occurs in response to a domestic crisis that causes them to lose confidence in the country's economy".

markets countries should not be considered as one market limited by its physical borders since, unlike developed countries, they are not culturally homogeneous. We can conclude that frontier markets also present cultural distances inside the country. As Johansson (2009, p.72) highlighted, in negotiations it is important to know “something about the cultural background of the opposite partner”. In Nigeria the researcher gives the example of war between ethnic groups Ibos and Hausas. However, this level of detailed analysis is better suited for the final decision stage and not the preliminary screening stage.

Frontier markets generally have inadequate infrastructures, contrasting with the improving infrastructural developments of emerging markets (Cavusgil, Knight, and Riesenberger 2017). Infrastructural deficiency is one of the main constraints in frontier markets selection, since many of the countries do not have functioning basic infrastructures, e.g. electric network, piped water. For manufacturing industries these are limitations that make a country’s selection unfeasible. Distribution networks are also underdeveloped. Cavusgil, Knight, and Riesenberger (2017, p.245) presented the case of Tata Chemicals which “had to build its own road and railway infrastructure in Africa to support the firm’s operations there”. For companies which do not seek to invest in the country, countries that are large have the additional inhibiting restriction of physical geography. In Nigeria it is difficult and costly to reach the population in rural areas outskirts (Craig and Douglas 2005). We can now understand that all infrastructural indicator previously presented are imperative in the analysis of frontier markets. Moreover, depending on the industry they can be eliminatory factors. It is important to clarify that one should not assume, in frontier markets, that a country which has an underdeveloped basic infrastructure will necessarily have undeveloped communications infrastructure. As Subrahmanyan and Gomez-Arias (2008, p.407) explained “newer technologies, like mobile phones, computers and the Internet, are spreading faster than did older ones like the electrical grid and telephone landlines. Some reasons for this are: opening of markets to competition, ability to leapfrog rather than build on old technologies, new systems requiring few highly qualified people to maintain and easier maintenance”.

Typically, frontier markets can be identified by their agrarian economies, contrasting with the emerging markets which have economies based on the manufacturing and services sectors. Typically, frontier markets economy depends on the agriculture and commodities sectors (Cavusgil, Knight, and Riesenberger 2017). These are sectors that provide little basis for creating wealth. Therefore, the majority of their populations have very low incomes. Prahalad and Hart's (2002) work presented the term bottom of the pyramid. If a country’s population was divided in a pyramid based on its income, the richest would be at the top, the middle-class in the middle and the poor would be at the bottom. The term bottom of the pyramid defined the people in a country which lived with less than two dollars per day. Typically, frontier markets have a small or nonexistent middle-class, therefore most of the population can be included in the bottom of the pyramid category. This contrasts with emergent market’s growing middle-class, as a result of the countries’ industrialization and the economic growth it brings (Cavusgil, Knight, and Riesenberger 2017). The size of middle-class is a well-accepted indicator that measures a country’s economic development. It is also used to indirectly study the presence of the bottom of the pyramid class in a country. Therefore, we maintain the size of middle-class as an indicator in frontier market analysis.

Also, researchers typically use the middle-income class income as the average consumption capacity of the population in the country — see Cavusgil's (1997) model. Frontier countries have high income inequality, so this indicator would not provide a real estimate. Therefore, we must also consider the income distribution in the country when analyzing frontier markets (Craig and Douglas 2005). For example, Cavusgil, Knight, and Riesenberger (2017) used median income, instead of middle-class reference, because of the income distribution problem of frontier markets. Therefore, we substitute the indicator of average income by the median income as the average consumption capacity.

In the literature it is typically used classical income indicators, like GNI per capita, to compare income between different countries. However, this measure does not consider a country's taxation structures or the price differences between countries (Cavusgil, Knight, and Riesenberger 2017). Therefore, it does not provide an accurate comparison between country's incomes. Consequently, we must consider GNI with purchasing power parity (PPP). As Cavusgil, Knight, and Riesenberger (2017, p.241) explained, "adjustment of national income statistics for purchasing power equivalence results in significant adjustments of apparent relative wealth, especially for emerging economies".

Another interesting aspect that we need to consider in the analysis of frontier markets is the contrast of urban and rural living. This is a problem in both emergent and frontier markets. In these markets there are contrasting economic developments in urban and rural areas. Typically, the urban areas have more developed economic infrastructures (Cavusgil, Knight, and Riesenberger 2017). Also, there is a higher concentration of the middle-class consumers (Douglas and Craig 2011; Cavusgil, Knight, and Riesenberger 2017). In the rural areas the population typically farms their own food, being mostly an agriculture of subsistence (Craig and Douglas 2005). In good farming years can even sell the excesses in the local market. Therefore, the typical tools used to measure income will not have the ability to estimate the income of rural areas, and will translate better the income of urban areas (Douglas and Craig 2011). Therefore, we focus on all steps in the frontier market model on urban areas.

2.2.4.3. Market Selection Model for Frontier Markets

Previously, we identified that the critical factors that should be used in the analysis frontier market are risk and infrastructure factors. These factors were selected because they can be eliminating, since they make a country's selection unfeasible. The risk indicators that need to be considered are political, legal, economic/financial and cultural. For infrastructure indicators it should be considered both physical and institutional intermediaries. We also detected that some indicators used in the analysis of emergent markets are not suitable for the analysis of frontier markets, for example, the usage of per capita middle-class income as the country's standard income per capita. We present on Appendix A the additional factors that need to be considered in frontier market selection inserted in each stage of three-stage sequential. We present on table A4 (in appendix A) the additional factors that need to be considered in the preliminary screening stage (previously presented on table A1 in appendix A). We present on table A5 (in appendix A) the additional factors that need to be considered in the in-depth screening stage (previously presented on table A2 in appendix A). No factors were identified for the third phase of the three-stage sequential, except for the analysis of cultural homogeneity, because the majority of the model do not go into detail in this phase.

3. Methodology

In this chapter we present the model and case study selected to study market selection factors for frontier markets. To enable this study we selected the case study methodology because it is an adequate approach for in-depth understanding of cases (Stake 2000). Furthermore, cases are used to study contemporary phenomena with a real-life context (Yin 2003; Creswell 2007). Creswell (2013, p.97) defined case study as an "approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (…)". This definition emphasizes that a case study can have a single or multiple case sample. Typically, a single case sample is selected because of "its particularity and ordinariness" in order to "provide insight into an issue or to redraw a generalization" (Stake 2000). In the presented study, we analyze the single case of a Portuguese SME trading company, to which we refer as Company A, for confidentiality reasons. This case provides insight into the topic under study. In this instance the case plays a supportive role in the analysis by enabling the study (Stake 2000).

In the previous chapter, we presented the critical market selection factors for frontier markets. However, the factors used depend upon the model selected. In the literature, we could not identify one model prepared for the analysis of frontier markets. However, we identified the type of model preferred by researchers for international market selection — the three-stage sequential model. In the literature review we identified that no model, developed for emergent market, had the three-stage adapted for emergent market selection. Therefore, the purpose of this research is to assess if international market selection factors developed for preliminary screening of emergent markets analysis can also be used for market selection of frontier markets. One of the main contributions of this work is focused on the development of an in-depth screening stage for frontier markets, where there is an absence in the literature for both emergent and frontier markets. Consequently, our approach is to select an in-depth model from the literature review and perform alterations to the factors proposed by said model in order to contribute to the field with an in-depth screening stage for frontier market analysis. The alterations performed are conditioned by the case study characteristics. A review of the sampled countries characteristics, company and product characteristics is the basis for the contextualization required. As we have highlighted, this is a standard step in a market selection process, in order to correctly adapt the model to the company's context.

This chapter is divided in four sections. First, we present the company selected for the case study. In the second section, we introduce the sample's countries. After, we introduce the product characteristics. Lastly, we describe the model selected. We chose this order because the product and countries elected for the analysis were selected by the company. Therefore, we conducted and overview analysis of the product's and countries' characteristics. These analyses allowed us to understand how the factors and indicators uncovered during the state of the art need to be adapted in the contextualization process. In the state of the art we followed the approach from international market selection literature of separating international market selection from entry mode selection. However, in the contextualization process entry mode selection is directly linked to market selection. Therefore, in the model's contextualization process we took into consideration the company's entry mode preferences.

3.1. Company

Company A, designated as such for confidentiality reasons, is a Portuguese trading company created in 2014.

- Presentation

According to the Recommendation of the European Parliament and of the Council, concerning the definition of SMEs (O.J. L124/36 2003), a medium-sized enterprise is defined through two criteria. A company must have less than 250 employees and its turnover must be situated between 10 million and 50 million euros, during a fiscal year. Company A can be defined as a medium-sized enterprise, since during the 2018 fiscal year, it had 6 employees and its turnover was around 18 million euros.

Company A is a trader of fast-moving consumer goods (FCMG) like edible oils, sugar and milled grains. The company works primarily with the Portuguese speaking countries in Africa (namely Angola, São Tomé e Príncipe, Equatorial Guinea and Cape Verde) and South Africa. In terms of clients, it works with wholesalers from both the informal markets, i.e. street markets, and formal markets, i.e. retail stores.

In 2014, the company was created to provide procurement, logistic and documentation services for small sized food wholesalers in the Angolan market. At the time, the distribution market in Angola was very fragmented and logistic services were very expensive. These two factors created a large number of dispersed local wholesalers that operated at a regional level. This meant that Angola's distribution market was characterized by small wholesalers that were not organized at a national level, as we see in developed retail. Therefore, the decision maker of company A saw a business opportunity and created the company to act as the procurement department for small wholesalers in Angola. However, in 2014 Angola entered into recession. This resulted in currency restrains, in order to protect the local currency. The restrains inhibited small wholesalers to get access to foreign currency in order to buy food from abroad. Quickly they disappeared. However, the newly created company A managed to successfully change their business model according to the changes in Angolan market. Also, has managed to enter to other markets which allows the company to manage its risk.

Currently, the company provides an assortment of sub-Saharan African staple foods with the company's brands to its clients. The company also provides to its clients the logistic and documentation services requirement in international commerce. The procurement services are now a part of the company's operation however are not its main operation.

- Present Day

Currently, Company A is focused on expanding its operation in order to grow its business. It has opted to look for new trading opportunities in sub-Saharan Africa — the region in which it already works — since it presents a long-term economic potential. The decision maker selected a sample of four sub-Saharan countries: Gabon, Ghana, Ivory Coast and Nigeria. The company is looking to enter to one country since it currently only has resources to expand to one market. In terms of entry mode selection the company selected exporting, which is the company's only entry mode.

The company has not been able to define the factors that should take into consideration in the market selection process — until now the entrepreneur's know-how has been the deciding factor and in these markets the entrepreneur has no experience.

According to the decision maker, the company wants to expand its Central Africa presence by studying the feasibility of exporting to Gabon. The company already exports to Equatorial Guinea, and therefore, wants to take advantage of logistics synergies that may exist between the two neighboring markets. The company also wants to enter West African markets, particularly Ghana, Ivory Coast and Nigeria. For the decision maker, these were the most attractive markets in West Africa which combined represent more half of the population in the region.

Company A is interested in testing refined palm oil fitness for trade in each of the markets. The decision maker selected this product given his knowledge of palm oil being a staple food in these countries. Additionally, it is a product that the company already offers.

- Company A Characterization

Casson (2003) defined two types of trading companies: brokers or resellers. They differ in terms of the ownership of the good. Brokers do not assume ownership but connect buyers to sellers for a fixed fee. Resellers buy products from sellers, and after find a buyer to sell it. Therefore, resellers assume ownership of the products. Unlike brokers, trading companies are intermediaries in the exporting process, by enabling companies — e.g. goods manufacturers — to export indirectly. As Casson (2003, p.25) highlighted, "the reseller not only assumes the risk of physical damage to the good whilst it is in his possession, but also carries the risk that the value of the good may change between the time at which he buys it and the time at which he sells it on". Consequently, we can defined Company A as a reseller.

Oviatt and Mcdougall (1994) presented a valuable characterization of reseller trading companies. They characterized it as importing/exporting companies which profit from the inbound and outbound logistics operations they offer, moving goods at an international level from where they are produced to where they are sold. The authors characterized two types, based on the number of countries in which they operate. The first "Multinational Traders" are typically large companies which operate in many countries worldwide, and given their network, have the ability to expand quickly to new areas of the World. The second type "Export/Import Start-ups" are smaller companies which operate in a restrict number of countries in which the entrepreneur is familiar. Therefore, "Export/Import Start-ups" will not develop a thorough market analysis and will only base their analysis on entrepreneurial know-how. Company A is included in the last type since it is an SME operating in five countries. These markets were selected because of the entrepreneur's 25-year experience in those markets.

3.2. Sample of Sub-Saharan African Markets

The sub-Saharan markets are included in the frontier markets definition because they present long-term economic potential (Nellor 2008). Therefore, these countries present promising opportunities for trade for companies looking to grow. In this section, we present an overview of some macro-level factors of the countries that compose the case study sample: Gabon, Nigeria, Ghana, and Ivory Coast.

Gabon is located in Central Africa. In 2013, Gabon's population was 1,8 million inhabitants, mainly concentrated in cities, where 87% of the population resides. In terms of the population age distribution, half is under 22 years old (United Nations Economic Commission for Africa 2017a). The official language is French, because of their colonial past. Consequently, France is the country's primary supplier representing 50% of the countries origin import (Agência para o Investimento e Comércio Externo de Portugal 2017b). Gabon is the fifth largest fuel producer in Africa (World Bank 2019c).

Nigeria is located in West Africa. In 2015, Nigeria had 182,2 million inhabitants. Its population is dispersed: in 2008, only 36% of the population lived in cities. In terms of the population age distribution, 70% is under 30 years old (United Nations Economic Commission for Africa 2017c). The official language is English. Unlike Gabon, the United Kingdom is not the country's primary supplier; instead it is China with 19% followed by Belgium and the Netherlands (Agência para o Investimento e Comércio Externo de Portugal 2018). Nigeria is the biggest fuel exporter in Africa, and has the largest natural gas reserve in the continent (World Bank 2019e). Its economy is built on these resources: in 2016 they accounted for 96% of the country's exports (Agência para o Investimento e Comércio Externo de Portugal 2018).

Ghana is located in West Africa. In 2015, Ghana's population was 27,4 million. In 2010, 51% of population lived in an urban setting. In terms of the population age distribution, 38% was under 15 years old in 2010 (United Nations Economic Commission for Africa 2017b). The official language is English. Similarly to Nigeria, the country's primary supplier is China with 18% followed by the United States of America and Belgium (Agência para o Investimento e Comércio Externo de Portugal 2017c). In 2010, Ghana started to produce fuel, which resulted in an important economic growth. In 2014, due to oil prices fluctuation, it experienced a phase of economic deceleration. With the recent increase in price it has become the second-fastest growing economy in Africa (World Bank 2019d).

Finally, Ivory Coast is located in West Africa. In 2014, Ivory Coast had 20,8 million inhabitants, mainly concentrated in cities with 50% of population living in an urban setting. In terms of population age distribution, 77% was under 35 years old in 2014 (Agência para o Investimento e Comércio Externo de Portugal 2017a; United Nations Economic Commission for Africa 2016). The official language is French. In terms of imports, Nigeria accounts for 15% followed by France and China (Agência para o Investimento e Comércio Externo de Portugal 2017a). Ivory Coast is the largest producer of cocoa in the World, accounting for 55% of the country's total exports in 2016 (Agência para o Investimento e Comércio Externo de Portugal 2017a; World Bank 2019b).

3.3. Product

Palm oil is the vegetable oil obtained from the fruit of the palm tree. It has become an important commodity in international commerce for its versatility in application, in both food and non-food products. Palm oil is an indispensable factor in the oils and fat industry (International Finance Corporation 2011).

Palm oil tree *(Elaeis guineensis)* origin is traced to the west Africa region (Poku 2002). The tree grows in the equator region because of its tropical climate. In west Africa it is native to some regions in Ghana,

Ivory Coast, Nigeria, Sierra Leone, amongst others (Poku 2002). In west Africa palm oil is an essential ingredient used for thousands of years and indispensable in traditional cuisine (Poku 2002).

The fruit of the palm tree his composed of a pulp, where the palm oil is extracted from, and a seed or kernel, where a second oil can be extracted — the palm kernel oil (Carrere 2013). This second oil is a byproduct of palm oil production, which is also used by different industries for both food and non-food products. In the present work we only study palm oil because it is the product company A is interested in analyzing.

- Production Players

In the first half of the XX century Nigeria and Zaire where the main producers and exporters of palm oil (Poku 2002). Since the XIV century palm trees were planted in the South America and the Far East. In the Southeast Asia the palm tree plantations thrive due to tropical climate, which has higher rainfall than west Africa (Poku 2002). In the XX century began the intensive production of palm oil trees for commercial purposes, especially in Malaysia and Indonesia (Teoh 2010). By the second half of the XX century Malaysia and Indonesia were the main producers and exporters of palm oil (Poku 2002).

According to Food and Agriculture Organization of the United Nations (2019), Nigeria accounted for 50% of the world production in 1963, by 2013 represented less than 2%. This phenomenon was in part due to the increase in palm oil production in other countries. In 1963, Malaysia and Indonesia accounted for 21% of the world's production of palm oil, by 2013 they represented 86% of the production (Food and Agriculture Organization of the United Nations 2019). This increase is explained by the increase in area planted in both countries. In the last four decades Malaysia experienced five times increase in planted area. In the same period, Indonesia experienced a twenty three times increase (Teoh 2010). In these countries the palm oil plantations are owned by larger companies, only 40% is managed by smallholder farmers (Kusumaningtyas and van Gelder 2017). There is not a standard definition in the literature of smallholders. The Roundtable on Sustainable Palm Oil characterize smallholders as "farmers growing oil palm, sometimes along with subsistence production of other crops, where the family provides the majority of labor and the farm provides the principal source of income and where the planted area of oil palm is usually below 50 hectares in size" according to Proforest (2014, p.1). However, in Sub-Saharan African smallholders' farmers work on much smaller areas. Therefore, the previous definition cannot be widely used for every palm oil producer country.

- Palm oil Production

Palm oil has experienced an annual increase in production and consumption since 1970s because it is a cheaper vegetable oil when compared to its competitor's soybean oil, rapeseed oil, and sunflower seed oil. It even entered into new markets already captured by other oils. Between 1980 and 2009 the palm oil world production increased more than nine times. Consequently in 2009, 34% of the world production of vegetable oils was met by palm oil. In the same period, soybean oil represented 27% and rapeseed oil 16% of the world production of vegetable oils (International Finance Corporation 2011).

The expansion of palm oil plantations was in part motivated by its high productivity (Poku 2002). Palm oil plantations can typically yield 4,09 tons per hectare. A higher value when compared to the 0,75 tons per hectare of rapeseed, 0,5 tons per hectare of sunflower seed, and the 0,37 tons per hectare of

soybean (International Finance Corporation 2011). Moreover, palm plantation produce two oils, both important in world trade, and it has the “lowest requirement for inputs of fuel, fertilizers and pesticides per ton of production” according to International Finance Corporation (2011, p.4).

- Palm oil Consumption

Currently, the consumption of palm oil is mostly located in Asia. It represented the biggest part of the palm oil consumption in 2016 with 66%. Followed by Africa and Europe with a 12% consumption each. In terms of consumption by countries, in 2016, it was led by Indonesia, followed by, India, China, Malaysia and Pakistan (Kusumaningtyas and van Gelder 2017).

According to International Trade Centre (2012) edible oils and fats consumption, including palm oil consumption, varies due to changes in income per capita, consumer tastes and preferences, and also price of substitute products.

Demand for edible oils and fats is lower at higher income levels because demand is less responsive to changes in income. However, demand for edible oils and fats is highly elastic at low income levels. Since income in developing countries is expected to continue to grow faster, than in developed countries, consumption is also expected to grow faster in developing countries. Therefore, demand for palm oil is expected to continue to grow due to the “population growth, increased per capita consumption, and movement of the developed world away from saturated animal fats” according to International Finance Corporation (2011, p.13).

Another factor that influences edible oils and fats consumption is consumers’ preferences, dietary habits and mode of use. In west Africa the taste and odor of unrefined red palm oil is preferred to other vegetable oils. However, western consumers prefer the refined, bleached and deodorized palm oil which does not have any color. Here it is extensively used for deep frying whereas in west Africa is used in everyday cooking (Angelucci 2013; Carrere 2013; Gourichon 2013). Changes in consumer dietary habits have also a direct impact in the preference for edible oils and fats (International Trade Centre 2012)..

Supply and demand, amongst other factors, condition vegetable oil prices. For lower income consumers, a high increase in price of a vegetable oil, in relation to the price of its substitute products, will typically result in the consumer changing its purchasing behavior (International Trade Centre 2012).

- Palm Oil Processing

Palm oil production is a complex process where many products can be obtained. Since our analysis is focused on palm oil for cooking use we will explain the main steps for the production of this product only.

The production of palm oil begins with the transportation of palm fresh fruit brunches from the plantation to the mill. Here, by milling, it is produced crude palm oil (Kusumaningtyas and van Gelder 2017). This is called red palm oil because of its reddish color. In the traditional processing, all production steps are done manually, and production ends when crude palm oil is obtained (Gourichon 2013). This is used, in this form, by the local farmer for cooking (International Finance Corporation 2011). In industrial processing there is a different production system, Figure 3 presents an overview of the production scheme. First, palm oil extraction is done mechanically. The crude palm oil can either go through more processing or it can be sold, as is, in the stock market (Gourichon 2013).

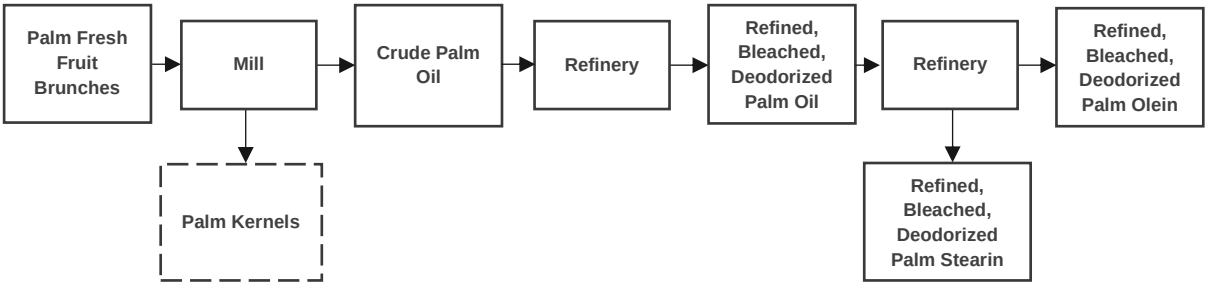

Figure 3 - Overview of palm oil industrial production phases and main inputs and outputs

Note: Adapted from International Trade Centre (2012). The geometric shapes with a discontinuous outline represent the byproduct of palm oil production.

The highest standards are imposed on crude palm oil that is sold on the international market. This type of crude palm oil is commonly referred to as special palm oil and it must respect 17 characteristics in order to be accepted in this premium level. Amongst other characteristics, it must have less than 2% of free fatty acids. The crude palm oil produced by traditional methods does not respect the 17 characteristics of special palm oil. It is commonly called technical palm oil. Typically, it has much more than 2% of free fatty acids because the palm fresh fruit brunches have to be processed between 12 to 48 hours, after harvest, and this timing is not respected by traditional processors (Dada 2007).

In industrial production crude palm oil can go through more processing steps. Next, it goes to the refinery. Here the oil goes through several steps to remove impurities, color and odors. After, it is obtained the refined, bleached and deodorized palm oil (Kusumaningtyas and van Gelder 2017). This is also traded in the stock market or it can go through another industrial step. In the next step the refined, bleached and deodorized palm oil goes through the fractionation process where the solid and liquid parts of palm oil are separated and is obtained: refined, bleached and deodorized palm olein and refined, bleached and deodorized palm stearin. Both can also be traded in the international markets (International Trade Centre 2012).

Many other products can be obtained from the pulp of the palm tree fruit, depending on the combination of industrial steps selected. Here we described the production system of the main palm oil products used for cooking purposes. Those are crude palm oil — both technical palm oil and special palm oil — refined, bleached and deodorized palm oil and finally the refined, bleached and deodorized palm olein. The company is interested in exporting refined, bleached and deodorized palm olein. Therefore, from now onwards when we refer to refined palm oil we are referring to this type of palm oil.

- Trade

Palm oil trade has many different actors participating in it. Beginning with palm tree farmers, which sell fresh fruit brunches to mill's owners. After mill owners sell crude palm oil to national or intentional brokers and clients. Most of the countries that import, and export palm oil operate in the basis of free market. Therefore, the private sector plays a determining role. According to International Trade Centre (2012) MNE are responsible for the majority of palm oil trade. Nevertheless, the importance of the private sector in the palm oil national market varies from country to country. Typically, in frontier markets local governments participate directly or indirectly in these markets. They have an important role in protecting the

domestic palm oil production. They rely on a variety of trade barriers that can be imposed on palm oil products. Consequently, analysis of trade barriers is extremely important in palm oil trade.

According to International Trade Centre (2012, p.13) the major determining factors of vegetable oils markets — palm oil included — are “the overwhelming weight of governmental policies on the sector development; the volatility of prices and the impact of speculation; and the correlations between the consumption and prices of several oils due to their substitutability for major uses”.

Palm oil — in its various forms and types — is internationally sold and bought through the stock market. According to International Trade Centre (2012) there are two types of palm oil trade: physical and commodity trading. The traders in the physical markets buy specific quantities of palm products, of particular grades and specifications, from merchants. The second type of palm oil trade is done by commodity brokers, which are traders responsible for arranging the purchase or sale of palm oil products in commodity exchanges. This last type does not assume ownerships of the product, and acts more as an agent, unlike the first type which is involved in logistics. Therefore, the trader in physical markets assumes responsibility for transport and shipping. Figure 4 presents a simplified supply chain of palm oil in physical markets. For example, this is the case of many multinational companies —which have refineries or factories— where buyers at corporate head offices purchase palm oil and take care of the logistics.

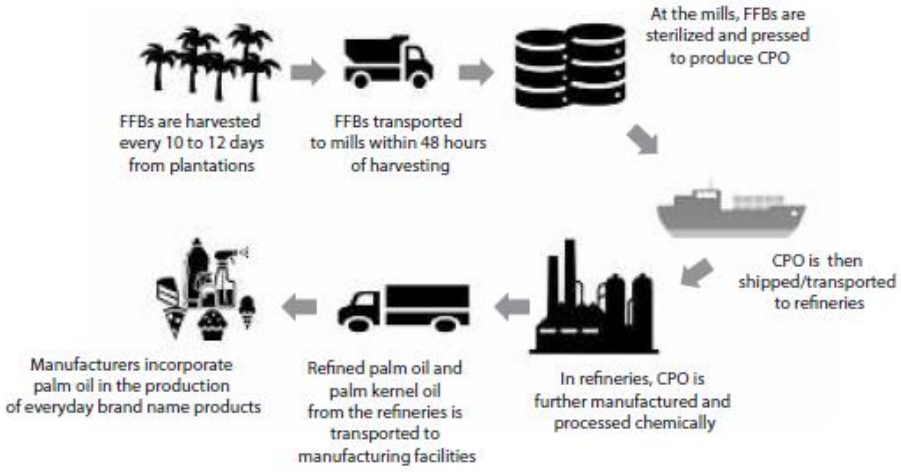

Figure 4 - Palm oil supply chain in industrial processing

Note: Adapted from Kusumaningtyas and van Gelder (2017). In the figure, FFBs means palm fresh fruit brunches, and CPO means crude palm oil.

According to International Trade Centre (2012, p.19) a number of factors influence palm oil trade " uncertainty over supply and export availabilities — volumes and prices depending on weather, pests and disease, natural phenomena, economic and political situation, exchange rates, etc. — as well as the adequacy of trade and investment policies, infrastructure conditions and facility of access to information, influencing the reliability and performance of trade operations”.

3.4. Model

In this section we present the model that was selected from the literature review.

In chapter 2 we showed that the systematic approach is the most supported approach in the international market selection literature, since it creates a supported and formalized decision making process (Andersen and Buvik 2002). Due to the complexity of foreign market analysis, it is recommended to have this process divided in phases. The most used model with this configuration is the sequential approach with three-stages. The model is first composed of a preliminary screening stage, followed by an in-depth screening stage, and lastly the final decision stage. This model's structure is presented in Figure 5. This was the market selection model chosen to be used in the present case study. Its framework allows a rapid and simple market selection because, in the first phase, many countries are analyzed at once, reducing the time spent on market analysis. Furthermore, it has the capability to analyze each markets' demand for a specific product.

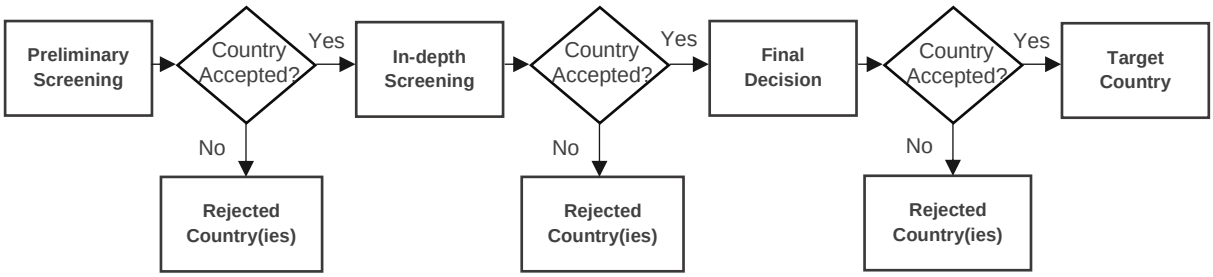

Figure 5 - Three-stage model configuration

Note: Adapted from Root (1994).

The preliminary screening objective is to obtain a general assessment of the attractiveness of the sampled countries. In this step macro-level factors are used. Each country's score, in each factor, is computed into an overall market attractiveness score value. These values deliver a ranking of the sample countries, in an order of attractiveness. This phase can be performed with secondary data from public sources collected through desk research, e.g. from documentary sources or international business publications available on the internet (Cavusgil 1985; Johansson 2009). At the end of the first step some countries are excluded, depending on the selection criteria used. In the literature review we concluded that there is no consensus on the selection criteria for the preliminary screening. Also, there is no consensus on the number of countries that should be eliminated. The remaining ones go to the in-depth screening stage. The second step's objective is the assessment of the country's market potential — if possible, down to a specific market segment since in this stage a product variable is introduced to assess each country's product fitness for trade. In this step factors that characterize the product's market are analyzed. Once again, secondary data is the type of data used. After this step more countries are excluded, moving a smaller list to the final phase. In the literature review we concluded that there is no consensus on the selection criteria for the in-depth screening as well as no consensus on the number of countries that should be eliminated. The final decision phase requires an analysis of the company's sales potential on each foreign market. Consequently, it is based on contextual factors. Unlike the previous stages, the third stage requires first-hand information obtained through field research (Cavusgil 1985; Johansson 2009), since it is more reliable and more specific to the company needs, e.g. products prices in each country. Therefore, it was not executed in the present work, since it was not feasible. Given this restriction, the case study model will only include the preliminary screening and in-depth

screening stages, since the final selection phase is excluded from the master dissertation's objective. The case study model is presented on Figure 6.

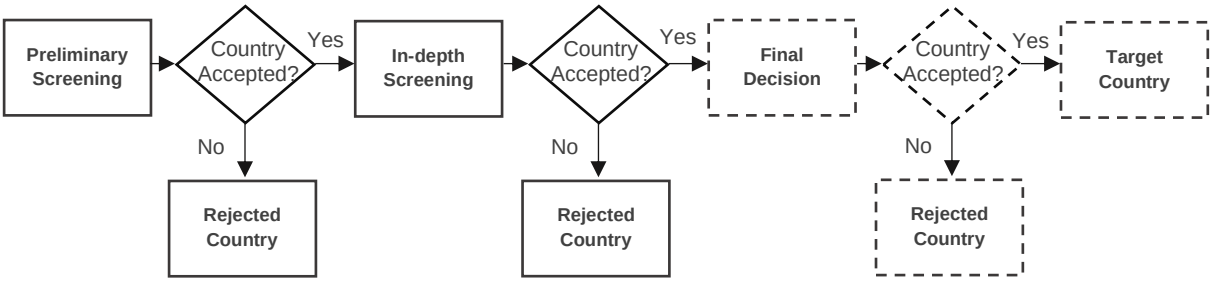

Figure 6 - Master dissertation's model configuration

Note: Adapted from the theorical configuration of the three-stage model on Figure 5. The geometric shapes with a continuous outline represent the stages which were executed in the present dissertation. The geometric shapes with a discontinuous outline represent the stages which were not developed.

In the literature we identified that most researchers agree on the objective of each stage of the three-stage sequential model. However, when it comes to the factors selected for each step there is no consensus. Consequently, in the literature there is not a standard three-stage sequential approach. In the literature review we did not identify a model for frontier market analysis. In the model's we analyzed no model took only into consideration frontier markets' characteristics in its factor selection. We identified various types of models, for emergent markets, that could be used as the basis for the contextualization process. However, the limitations we recognized in the literature review conducted the selection process. Moyer's (1968) and Samli's (1977) models were excluded because they do not use the three-stage sequential model. Moreover, Moyer's (1968) model only analyzes a small number of product-specific factors and discards the analysis of economic and political risk, along with trade barriers which are key factors in frontier markets analysis. Also, Samli's (1977) was also excluded because, as Moyer (1968) highlighted, extrapolation cannot be performed since the behavior and evolution of frontier markets cannot be expected to be equal to the developed markets. Arnold and Quelch (1998) developed a model which used the three-stage approach, however the model developed did not present a detailed well-structured framework that could be used for this study. Lastly, Sakarya, Eckman, and Hyllegard (2007) model only proposed an additional stage to the three-stage model. Moreover, this suggestion has limited applicability since it proposes an expensive and time-consuming task that cannot be performed by most companies, especially SMEs.

In the literature we did not identify a model that adapted all stages of the three-stage model for the analysis of emergent or frontier markets.

For the preliminary screening stage we choose the 2018 version of Cavusgil's (1997) Market Potential Index model because this was the only model that included frontier markets in its sample (GlobalEDGE 2018a). Additionally, the model is updated yearly and published with a continued improvement on the indicator's usability and reliability. The literature advances in the field are taken into consideration by, for example, replacing indicators that have been identified as redundant.

In the literature, for the in-depth screening stage, we also did not identify a market selection model that correctly linked the analysis of Cavusgil's (1997) Market Potential Index model, in the first stage, to the analysis in the next stage. Therefore, we selected Cavusgil's (1985) model for the in-depth screening

stage, following Cavusgil's (1997) recommendation. Moreover, Cavusgil's (1985) model is the only framework in the literature that provides a detailed structure of factors for the in-depth screening stage.

In the literature there are country specific and product specific models, which differ solely on the factors used in the preliminary screening stage. Both models selected are country specific, i.e. they do not focus their preliminary screening study in a specific product. However, their in-depth screening stage requires a product specific analysis. In the present work, according to the decision makers' selection, our analysis is focused on one product. This enables an objective and comparable analysis between the countries. This product specificity is introduced in the in-depth screening stage, since the model selected for the preliminary screening stage does not require this consideration.

We identified that there is no agreement in the literature regarding the number of countries that should be considered in the initial sample. Root (1994), Kumar, Stam, and Joachimsthaler (1994), and Craig and Douglas (2005) believe that as many countries as possible should be considered — if possible, all. They argue that this is the only way to guarantee that no product/market combination is ignored. However, we selected a model with country specific approach in the preliminary screening therefore this is not a concern. Cavusgil (1985), Sakarya, Eckman, and Hyllegard (2007) and Johansson (2009) highlight that many times companies have a specific group of countries which they want to investigate. Also, these researchers recognize that researching all possible countries is not an efficient process for companies. Cavusgil (1985) recommends analyzing only the countries that are more attractive, *a priori*. Sakarya, Eckman, and Hyllegard (2007) and Johansson (2009) addressed this problem by adding an extra stage to the three-stage model. This new stage is added to the beginning of the model and will allow the company to gather specific information about the markets, letting it identify which countries are most attractive. In the present work we follow Cavusgil's (1985) approach for the initial sample selection since the other alternatives did not provide an applicable and well-structured approach. In the present work the number of countries in the initial sample was selected by the company A's decision market which selected four countries.

In the literature we identified there is not a fixed value for the number of countries a decision maker should select to move to each of the stages in the three-stage process. Root (1994) suggests a sample for the in-depth screening stage of ten to fifteen countries. This value will depend on time and budget constraints each decision maker has (Cavusgil 1985; Johansson 2009). We decided upon the rule of eliminating the bottom rated country in each step.

The next sections present in detail the composition of the model selected for the analysis.

3.4.1. Preliminary Screening

In the preliminary screening stage we used the 2018 updated version of Cavusgil's (1997) Market Potential Index model. The framework developed by the researcher is presented on table B1 (in appendix B). This framework presents a different configuration than the original framework on presented in Cavusgil's (1997) work. It presents an additional factor group "Country Risk" and new indicators in each factor group (GlobalEDGE 2018a). The weight of each factor group was also updated in the 2018 version. Despite all these changes the calculation procedure remains the same, as was presented in section 2.2.3.3. Also, the entry mode selected remains exporting.

Since the index creation it has been available online through Michigan State University's globalEDGE knowledge web-portal[4]. Consequently, this first market selection phase is not executed in this master dissertation. The GlobalEDGE web-portal publishes the final ranking of the model annually.

- Analysis of Frontier Markets Factors Presence

We now analyze the presence in Cavusgil's 2018 model of factors we identified, in section 2.2.4.2, as the common factors used in international market selection of frontier market. From the factors we identified the model presents many of the factors and indicators identified. The model presents many of the factors we identified, however there are some exception. Cavusgil's 2018 model does not present any indicators of social/cultural environment factor. Given that the predecessor model — Cavusgil's (1985) work — used a cultural distance indicator. It was expected that this indicator would be maintained in the 1997's model, since this last model was specific for emergent markets. However, a later work of Cavusgil's — Cavusgil, Knight, and Riesenberger's (2017) work — uses cultural distance as an indicator in international market selection only when the decision maker is considering FDI. Since Cavusgil's 2018 model has exporting as the mode of entry we can conclude that the absence of social/cultural indicators is due to the mode of entry selected by the researcher.

Cavusgil's 2018 model presents a well-developed infrastructure analysis that goes beyond the identified indicators —physical transportation infrastructure, retail network and communication infrastructure. In the infrastructure analysis were not included indicators for the analysis of basic infrastructures. According to Cavusgil, Knight, and Riesenberger (2017) the analysis of basic infrastructures in the preliminary stage is more suitable for companies that are looking to invest directly in the country, e.g. building an industrial plant. For an exporting firm this is not a necessary indicator, therefore it was not included. We can conclude that the absence of an analysis of institutional infrastructures is conditioned by the same reasoning.

In terms of the risk factors we previously identified, in section 2.2.4.2, this model does not present all. However, it adds new indicators that we will now present. The traditional indicator of political risk is used, and it is provided by Credendo's country risk[5] assessment rating. Another traditional indicator of economic/financial risk is currency exchange rate stability, which is the only indicator of the critical factor list not used. This absence can be explained by the mode of entry used in the model. A company that exports to a country is not directly affected by a country's variability in exchange rate. This explains the usage of the indicator of Business Risk Rating from the Swiss Export Risk Insurance. This indicator measures a country's bank *del credere* risk[6] (Swiss Export Risk Insurance 2019a). This is the typical economic/financial risk an exporting company will experience. Other economic/financial risk indicator

[4] For additional information on GlobalEDGE knowledge portal access: https://globaledge.msu.edu/

[5] As Credendo (2019) explained the index analyzes "all events assuming a case of force majeure for the insured or the debtor/obligor being foreign exchange shortage, political unrest such as war, revolution or riot, natural disaster and arbitrary government action".

[6] The *del credere* risk indicator is defined by Swiss Export Risk Insurance (2019b) as "the risk that the buyer or guarantor will be unable or unwilling to pay".

suggested, like inflation rate or currency control, are taken into consideration in the model by Coface country risk index[7].

We now analyze the presence in this model of the factors we identified, in section 2.2.4.2, as the new factors used in international market selection of frontier market. In Cavusgil's 2018 model market size is calculated only as urban population and not as the total population in the country, which is a more appropriate measure due to urban/rural differences in frontier markets, as well, due to the limitation in reaching rural areas. Also, it is used the indicator of size of middle-class.

- Model's Suitability to the Case Study

The selected model is particularly suitable for this case study analysis since it uses the same entry model selection as our case study. Moreover, the market consumption capacity factor group is household disposable income which is the appropriate measure for the product in our case study.

The market selection literature has emphasized the need of adapting each model to the context in which it is being used (Douglas and Craig 1992; Sarkar and Cavusgil 1996). The contextualization of a market selection model, to the decision maker's reality, is attained through an adaptation of the model's weights and factors. In the previous analysis we conclude that Cavusgil's 2018 model has all the critical market selection factors for frontier market, identified in section 2.2.4.2, therefore no factors were altered. The main contribution of this work is focused on the development of an in-depth screening stage for frontier markets. Where there is an absence for both emergent and frontier markets. Therefore, the study of the model's weights goes beyond the objective of this master dissertation. In this study we are not focused on assisting the case study's decision maker in his selection process, but we are focused on studying the model's factors. For that reason, the weights were not changed in this study. It was used the weights from the 2018 version of the Cavusgil's (1997) Market Potential Index model (GlobalEDGE 2018a). Nevertheless, we recongize this decision affects the models outcome.

3.4.2. In-depth Screening

In the in-depth screening stage we selected Cavusgil's (1985) in-depth screening approach. The framework developed by the researcher is presented on table B2 (in appendix B). This framework presents the same indicators identified in the state of the art as the most cited ones (presented on table A2 in appendix A). However, in Cavusgil (1985) framework the indicators from the "Consumer/ User profile" and "Market Potential" group factors were clustered in the "Product Potential" group factor. Also, the "Trade Barriers & Regulations" is labeled "Market Access". Additionally, the researcher added an extra category of "Local Distribution and Production" that provides a general evaluation of operational factors specific to each company's industry.

Cavusgil's (1985) model does not indicate specific indicators for each factor, providing only guidelines of the information that should be considered in each factor group. Therefore, we researched the indicators that would operationalize Cavusgil's (1985) framework (presented on table B2 (in appendix B). We based our research on the indicators used in the state of the art (presented on table A2 and table A6 in

[7] According to Coface (2019) this indicator analyzes the economic, financial, political and social environment in the country, providing a rating of the country's risk rating.

appendix A) as well as on the attributes of our countries' sample and out product's characteristics. Cavusgil's (1985) model provides some general sources where the information for this analysis can be found, e.g. Organization for Economic Cooperation and Development (OECD), Food and Agriculture Organization of the United Nations (FAO) and United Nations Conference on Trade and Development (UNCTAD). We additionally researched online for new sources that provide public information for this model's indicators. The final framework we developed for the in-depth screening phase is presented on table B3 (in appendix B).

- In-depth Screening Selection Process

Contrary to the preliminary screening framework previously presented, this model does not indicate a ranking strategy to compare between the alternatives, nor a selection process to conduct the elimination process. From the literature review we concluded that there is no standard approach in terms of the selection. While some authors suggest a ranking approach only for the preliminary screening, e.g. assigning weights to factors to reflect importance (Cavusgil, Kiyak, and Yeniyurt 2004), others, like Kumar, Stam, and Joachimsthaler (1994) and Johansson (2009), suggest it in all three steps. Root (1994) suggests other forms of selection for example, to consider as decisive only a selective group of the factors. Therefore, the countries that do not fulfill the minimum criteria of these factors, established by the decision maker, are rejected. Craig and Douglas (2005) highlighted, that the evaluation method will only depend on the company's time and budget. Given that ranking models need to be created with the adequate support, which goes beyond the project's focus, we did not selected it. Instead, we selected to analyze each indicator according to the decision makers criteria, attributing an equal weight system to all factor groups. Nevertheless, we recognize that this approach has a directed impact in the final result, and does not convey the decision markets' factors preferences.

In the state of the art review we concluded that the context dependency of international market selection has maintained an absence in the literature of an order of preference of factors, that would allow us to make the countries selection in this phase. Given the selection process selected by us we did not look to obtain an factors' order of preference, but an insight in the decision makers' indicators' analysis criteria. Consequently, the indicators' selection criteria were obtained through an interview with the Company's A decision maker.

- Interview

International market selection model's operationalization depends upon the decision maker's requirements. These requirements are established by the decision maker's experience, industrial context, consumer base, international market know-how, amongst other. Company A's decision maker is the company's general manager. He is the sole decision maker which influences the company's strategic direction. Therefore, the interview was done with the company's general manager. The interview objective was to assess indicators' selection criteria in the selection process, in order to obtain the selection criteria for the in-depth screening stage. The interview also allowed us to validate the frontier market factors identified in section 2.2.4.2. Nevertheless, this was a subjective validation, since it is only applicable to this decision maker's, and to his context.

DiCicco-Bloom and Crabtree (2006) identified in the literature a common characterization of qualitative interviews as: structured, semi-structured and unstructured. A structured interview can limit the findings since, unlike the semi-structured, it does not allow the introduction of other questions that can emerge during the interview (DiCicco-Bloom and Crabtree 2006). An unstructured interview does not have a pre-defined questionnaire, which can lead an interviewer to steer away from the focal point and fail to ask the right questions (Stake 1995). For these reasons, we conducted a semi-structured interview. Typically, a semi-structured interview is composed of predetermined open questions (DiCicco-Bloom and Crabtree 2006; Creswell 2007). This enables interviewees to fully describe and develop their answers, allowing their personal opinions and experience to come across, which gives the interviewer a better understanding of the interviewees' reasoning. Consequently, to guarantee a correct interpretation of decision maker's attitudes and opinions, the interview was conducted during a face-to-face meeting. At the end of the interview the answers were summarized to the decision maker, ensuring that his responses were correctly understood. The interview was recorded to allow a correct analysis of the results. The interview protocol is presented in Appendix C.

- Contextualization of the In-depth Screening Framework

We used the in-depth screening framework presented on table A2 and table A6 (in appendix A) as the basis for our contextualization process. In this section we present the reasoning that allowed us to obtain the final framework developed, which is presented on table B3 (in appendix B).

In the final framework we followed the same reasoning from the preliminary screening where indicators for long-term analysis and FDI analysis were not considered. Also, from the state of the art framework was not included the indicator of future market size and future market potential. Lastly, from Cavusgil's (1985) framework were not included the indicators of legal considerations (i.e. investment, taxation, repatriation, employment, code of laws) and the indicator of condition of labor market.

Cavusgil's (1985) framework provided several indicators that were not found in the state of the art framework. The researcher was the only one including the indicator of preferential trade treaties in the "Trade Barriers & Regulations" group factor, which has a direct influence in tariff and non-tariff barriers. Additionally, Cavusgil's (1985) also was the only researcher analyzing the product's production, imports and exports in the sample countries. In the interview we realized that this was one of the critical factors for our decision maker. He wanted to understand if the sample countries import the product or not. Moreover, if the countries have a trade deficit in refined palm oil for cooking. However, the data publicly available typically does not differentiate between refined palm oil for cooking uses and refined palm oil for non-food uses. This is due to the coding system of palm oil in the Harmonized Commodity Description and Coding System. This coding system is a standardized custom tariff system that allows, the countries which adopted it, to have the same numerical code for a product (United Nations 2017). The Harmonized Commodity Description and Coding System is standard only up to the sixth digit level. Table 2 presents the coding system for palm oil products. From the sixth digit onwards each country can divided it customs tariffs system as it wants (United Nations 2017). However, the next levels are the ones used to differentiate between industrial uses and cooking uses. Therefore, we cannot perceive what is the actual quantity imported of palm oil for cooking uses, since this type of information is only available after the

sixth digit in customs tariffs coding system. Moreover, we only found one source, International Trade Center (2019), that publish trade data for crude and refined palm oil. This allows us to add the indicator of quantity imported of refined palm oil, to asses if the countries import the product. Generally we detected that sources only publish data for palm oil as a product group, presenting data on crude and refined palm oil together. Therefore, all the remaining indicators are for palm oil as a group. In terms of indicators we added palm oil import dependency, export dependency and self-sufficiency ration. We also added an indicator of evolution of palm oil trade balance that analyzes if a country has maintained a trade deficit or surplus in the product in question.

Table 2 - Harmonized Commodity Description and Coding System for palm oil - 2017 version

Code	Definition	Type of Palm Oil	Type of Use
15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	All types	Food and non-food use
1511	Palm Oil and its fractions, whether or not refined, except not chemically modified	All types	Food and non-food use
1511.10	Crude palm oil and its fractions, not chemically modified	Crude Palm Oil	Food and non-food use
1511.90	Palm oil and its fractions, whether or not refined, except chemically modified and crude	Refined Palm Oil	Food and non-food use

Note: Adapted from European Commission (2019a)

Given the inability of understanding, through trade data, if food demand is the main driver in palm oil imports, we added an indicator to analyze palm oil domestic consumption. Domestic consumption can be divided into food and non-food uses. In the case of palm oil food use this term accounts for cooking uses, palm oil use for production of refined palm olein in the country and also industrial food production. The non-food use term refers to other industrial uses (United States Department of Agriculture 2019). We added the indicator of palm oil demand for food and industrial use in the “Market Potential” group factor. However, the data available is only for palm oil as a product group. Once again, we cannot obtain specific data for food demand of refined palm oil.

Cavusgil's (1985) model was the only one using the factor group “Local Distribution and Production” which allows an analysis of the country’s production system for the product in question. Moreover, it goes beyond the analysis of the production system and analyses the product’s value chain and the players in it. Also, frontier markets are characterized by a strong informal economy. Therefore, we added the informal market as another indicator to be analyzed in this factor group, in order to understand its presence in the production, distribution, and retail systems of palm oil value chain. Additionally, company A’s clients are both in the formal and informal markets. Therefore, we added the informal market as one of the subjects to be researched in the players analysis.

As we concluded in section 2.2.3.1, Cavusgil's (1985) work did not include an infrastructure analysis. However, frontier markets are characterized by their infrastructural deficiencies. In the state of the art framework we added an overview analysis of basic, distribution and communication infrastructures. In this analysis we only included an analysis of distribution infrastructure. Only this analysis was selected because company A’s business is based on efficient logistics operations to the markets they work. Therefore, a country’s distribution infrastructure plays a decisive role in the selection. Also, in this

framework we followed the same reasoning from the preliminary screening and did not include an analysis of institutional infrastructures, given company A's entry mode of exporting.

The state of the art framework typically characterized the middle-class income as the indicator of average consumption capacity. The World Bank has established a daily income for the middle-class of 12 to 15 dollars (CFAO Group 2015). However, the previous values for daily income for the middle-class cannot be directly applied to African countries due to their income inequalities (CFAO Group 2015). Therefore, African Development Bank stated in Africa middle class is defined as individuals or households that fall "between 0,75 and 1,25 times median per capita income, respectively", according to Ncube, Lufumpa, and Kayizzi-Mugerwa (2011, p.2). This definition of middle-class includes the floating, lower- and upper-middle class. Therefore, we selected for this analysis the African Development Bank criteria that the population that falls below the 0,75 times median per capita income is included in the bottom of the pyramid class, and the population that falls above the 1,25 times median per capita income is included in the upper class (Ncube, Lufumpa, and Kayizzi-Mugerwa 2011).

In terms of product characteristics — in this case study, refined palm oil — we adapted the indicators to fit the market's dynamics. Palm oil is a FMCG, and for FMCG the most suitable unit of analysis is the number of households (Douglas and Craig 2011). FMCG are not bought by individuals, like cellphones. Instead FMCG are bought for households. This differentiation has several impacts in the analysis. The number of households produces a smaller market size than the total population analysis. Most importantly, household income "is substantially larger than per capita income in these countries due to the presence of multiple wage earners in individual households", as Cavusgil, Knight, and Riesenberger (2017, p.242) explained. In the factor group "Consumer/User profile" in order to analyze the consumer we first need to characterize the consumer. First, we assessed the consumption of palm oil by region in the country. After we assessed the consumption of palm oil in the country by income class. Lastly, we assessed the food expenditure, by income class. These indicators were selected to asses if our analysis of only urban households and middle-class consumer in the country is adequate. As we explained in section 2.2.4.2, frontier markets consumers' study unit must be the urban consumer.

In terms of industry specific indicators of demand we introduced: household consumption and expenditure of palm oil and substitutes, palm oil income elasticity and urban and rural food expenditure. As we concluded in section 2.2.3.3 the reviewed researchers did not make a bilateral analysis to take into account the distance between the company's domestic country and sample countries. Based on Ghemawat (2001) work we added an indicator to measure the country's effect on trade barriers. Since company A is portuguese we measured the import penetration of portuguese goods as well as import penetration of portuguese palm oil in each of the sample countries. Moreover, we analyzed the trade relation between Portugal and the countries to research for preferential treaties.

- In-depth Screening Selection Method

In order to simplify the selection first we did not present the decision maker with the final framework we developed for the in-depth screening phase (presented on table B3 in appendix B). Instead we developed a simplified version that only encompassed the factors groups with some of the indicators used. These were the basis for the decision makers selection of an order of preference in the factors' selection.

In the interview the decision maker expressed the following order of preference, in a descending order of importance: trade balance indicators; national industry indicators; infrastructure indicators; consumers and client indicators were tied; national market indicators and market access indicators. However, this was not the criteria used in the selection process. After, in the interview we looked to understand the reasoning of this selection, using the developed framework table B3 (in appendix B). We question which were the indicators/factors the decision maker considered more important in the analysis.

The decision maker elected the trade balance factor as the most important factor in this analysis. Since company A wants to export the product, the main driver in this analysis must be if the countries import the product or not. Moreover, if the countries are import dependent. From these indicators we developed the first decisive factor in this analysis. Therefore, if a country does not import refined palm oil it will be eliminated. After, the decision maker elected the national industry factor. In this factor the main indicators were the importance of the national production in supplying the market demand as well as the level of sophistication of the industry. The level of sophistication will allow us to comprehend in which stage of development the industry is and how it functions.

The infrastructure factor is a particularly important factor in this case study because of the product being used. Palm oil is a commodity, therefore its final price depends mainly on the cost of logistics. Consequently, company A's palm oil final price will only be competitive in the market if the company manages to create an efficient supply chain. Therefore, the infrastructure analysis will uncover the main competitive advantages the company can develop to succeed in the market. First, the indicators of the road and rail network status and limitations will convey the type of distribution systems in the country and how the product will reach the clients. Most importantly, the decision maker highlighted the importance of maritime routes between portuguese routes and the destination countries. If there are no routes than exporting its no feasible. This is the second decisive factor in the analysis.

The consumer and client factors were tied. For the decision maker, the main indicator in these factors were the importance of informal economy and the type of clients, as well as the product's characteristics — product type and packaged size preference — for both consumer and client. The type of retail structure in each country conditions the type of trade. If modern retail has already a strong position in the country, then company A will have a smaller pool of clients. Therefore, the informal market — company A's main clients — will not have such of a presence. The type of product preferred in the market by consumers is an indispensable factor in palm oil products given the various types of palm oil.

In the last two places the decision maker put national market indicators and market access indicators. For the decision maker, these two indicators do not have such an important role in the market selection process. According to the decision maker, the national market size is not a deciding factor in the in-depth phase. Mainly because the company has managed to achieve success in small markets, like São Tomé e Principe, because of logistical efficiency the company developed in its supply chain to this market. Lastly, the decision maker selected market access because it was perceived as a redundant factor that analyzed if the country imported the product or not — which is analyzed on the trade balance factor. Additionally, this factor also analyzes other trade barrier, however the decision maker did not perceive them as key factor in the analysis, when compared to the other factors presented in the interview.

4. Results and Discussion

In the present chapter we present the data collected for the countries' sample. This presentation is followed by the analysis of the collected data, in order to guide the market selection process. The present chapter is composed of two parts. It begins with the presentation of results from the preliminary screening phase and in-depth screening phase. It is followed by the discussion of results and work developed.

4.1. Preliminary Screening Results

The preliminary screening phase was based on Cavusgil's 2018 model of Market Potential Index in on table B1 (in appendix B). The model was presented on section 3.4.1. The model's results are published on GlobalEDGE web-portal. The model analyzes 97 countries on the same factors. On the web-portal are presented the index overall result and final ranking, as well as, the ranking for each factor. The portal does not present the input values — the data used for the analysis — and only presents the sources and the data reference year. Also, the portal does not present the countries' results on each indicator.

We did not analyzed Gabon because of the country's weakness in the national statistical system (World Bank 2019c), which makes the country's analysis unfeasible.

Table 3 presents the 2018 model results for the countries' sample. In the table are presented the final index score for each factor, the overall score as well as the overall ranking. The values of the index are presented on a 1 to 100 scale. A country with a value of 100 on a factor — obtained the best value possible — corresponding to the first place in that factor's ranking. In the same reasoning, a country with value of 1 on a factor — represents the worst performing country in that factor — putting that country at the bottom of the ranking in that factor (Cavusgil 1997).

Table 3 - Countries' factor and overall scores on the Market Potential Index – 2018 model

Factors	**Ghana**	**Ivory Coast**	**Nigeria**
Market Size	2	2	7
Market Growth Rate	66	83	73
Market Intensity	44	23	67
Market Consumption Capacity	41	38	39
Commercial Infrastructure	29	29	28
Market Receptivity	12	6	1
Economic Freedom	63	54	50
Country Risk	34	32	21
Overall Score	20	19	23
Ranking	**73rd**	**77th**	**62nd**

Note: Adapted from GlobalEDGE (2018b)

In order to continue to the next stage of the market selection procedure we must perform the final step in the preliminary screening phase. This is the reduction of the countries sample. In the present model we established the bottom ranked country as the elimination criteria. Therefore, in this stage Ivory Coast is eliminated from the analysis.

4.2. In-depth Screening Results

The in-depth screening phase was based on the model presented on section 3.4.2. The following presentation of results is divided by group factors: trade analysis, market potential, local production and distribution, product's characteristics and market access. The in-depth analysis analyzed two markets, Ghana and Nigeria. These were the markets which successfully passed the first stage of our market selection model.

4.2.1. Trade Analysis

In this section we present the results of trade analysis factor. In this factor we analyzed the indicators: refined palm oil import need, indicator of imports' dependency and an analysis of product's trade deficit. Table 4 presents the results of the indicator of refined palm oil import need.

Table 4 - Quantities imported of crude and refined palm oil in 2018, by country

Countries	Quantity imported (in thousand tons)	
	Crude Palm Oil	Refined Palm Oil
Ghana	218	99
Nigeria	83	29

Source: United Nations (2019b)

Table 5 presents the results of the indicators of palm oil import dependency in 2018. These values represent both crude and refined palm oil imported by the countries.

Table 5 - Indicator of palm oil import dependency in 2018, by country

Indicators	Ghana (2018)	Nigeria (2018)
Import dependency (imported palm oil share in domestic consumption)	60%	25%
Export capacity (exported palm oil share in total palm oil produced)	43%	2%
Self-sufficiency ration (share of national palm oil production, minus exports, in domestic consumption)	40%	74%

Note: the calculation executed for the determination of the indicator's values are presented on Appendix D

Table 6 shows the trade balance data obtained for each country.

Table 6 - Palm oil annual trade balance, per country, between 2014 and 2018

Countries	Annual palm oil trade balance (in thousand tons)				
	2014	2015	2016	2017	2018
Ghana	154	128	165	160	160
Nigeria	488	245	280	284	312

Note: for the calculation of palm oil trade deficit were used the import values on table D2 (in appendix D) and the export values on table D3 (in appendix D)

From table 4 we conclude that both Ghana and Nigeria import refined palm oil. However, in 2018 Ghana imported three times more refined palm oil than Nigeria. From table 5 we concluded that Ghana has, in percentage, a bigger palm oil import dependency than Nigeria. This higher value is explained by Ghana's high export level. Consequently, we can deduce that Ghana has developed a palm oil trade market, based on import and export. This system justifies Ghana's lower self-sufficiency on palm oil, when compared to Nigeria's. Table 6 presents the actual dimension of palm oil trade deficit in both countries. From table 6 we conclude that both countries are trade deficient. Nigeria presents a bigger trade deficiency, even though it has a higher self-sufficiency ration, because the Nigerian palm oil market is bigger than Ghana's. Finally, we can conclude, from the trade analysis group factor, that Nigeria

presents the bigger import market, including crude and refined palm oil, however a smaller import market for refined palm oil. Therefore, Ghana is the best performing country in this analysis.

4.2.2. Market Potential

In this section we present the results of market potential analysis. In this factor group we analyzed the indicators: palm oil current market demand and size as well as a market growth. First, we present the consumer characterization that is the basis for the market potential analysis.

4.2.2.1. Consumer characterization

In this section we present the results of the consumer characterization factor. In consumer characterization factor we analyzed the indicators: consumption by country region, consumption by income class and national expenditure, by place of residence.

Firstly, we present the results of the analysis to the indicator palm oil cooking use in the country, by region. According to Angelucci (2013, p.9) “palm oil is the most important edible oil in Ghana”. We did not uncovered any data on palm oil consumption by region for Ghana. However, we uncovered data on its product category consumption in the urban area of Accra region. In 2013, the region presented the lowest share of oils and fats, in total food consumption, in Ghana with 2,3% (Ghana Statistical Service 2014). About Nigeria’s palm oil consumption Carrere (2013, p.60) indicated that palm oil is “widely used by the Nigerian people as edible oil”. We did not uncover any data on palm oil consumption by region for Nigeria. However, we uncovered data on a survey on oil and fats consumption in the past seven days. In the urban context was reported a consumption of 95,2%. In the analysis by region the south region, where Lagos city is situated, presented the highest value with 99,2% (Nigeria National Bureau of Statistics 2016).

Secondly, we present the results of the analysis to the indicator palm oil cooking use, by income class. In terms of palm oil consumption by social status Foundation for Partnership Initiatives in the Niger Delta (2012) reported that in Nigeria palm oil consumption “cuts across all regions and income strata”. No information was uncovered on palm oil consumption across social groups for Ghana.

Table 7 presents the results of the indicators of national expenditure, by place of residence. We conclude that, in both countries, the urban market accounts for the majority of national food expenditure.

Table 7 - Indicators of national expenditure, by place of residence

Indicators	Ghana (2006)	Nigeria (2003)
Urban food expenditure (in percentage of national food expenditure)	55	55
Rural food expenditure (in percentage of national food expenditure)	45	45

Source: Bricas, Tchamda, and Thirion (2014)

From the first indicator, we conclude that palm oil is consumed nationwide. Only about Nigeria we confirmed that palm oil is consumed by all social classes. From table 7 we conclude that in both countries the urban market accounts for more than 50% of national food expenditure. After these analyses we conclude that it is valid, in our analysis, to use the frontier markets’ guideline previously presented on section 2.2.4.2, and restring the study unit to the urban areas.

4.2.2.2. Current Market

Table 8 we present the results of the indicator of national palm oil demand by type. We conclude that, in both countries, food use accounts for almost all domestic consumption.

Table 8 - Palm oil domestic consumption, by country, in 2018

Countries	Domestic consumption for food use (in percentage)	Domestic consumption for industrial use (in percentage)
Ghana	100	0
Nigeria	82	18

Source: United States Department of Agriculture (2019)

Table 9 presents the results of indicators of market size. In the analysis we used 2016 as the base year for the analysis of Ghana and 2009 as the base years for the analysis of Nigeria. In order to correctly access each country individually we selected the year in which all the information for the required indicators was available.

Table 9 - Indicators of market size

Indicators	Ghana (2016)	Nigeria (2009)
Urban population [a] (in percentage of total population)	55	43
Size of urban households [b] (in number of households)	3 916 268	14 746 605
Household median income [b] (in international dollars, 2011 PPP)	11 116	14 816
Size of middle-class [b] (in percentage of total population)	20	20
Size of bottom of the pyramid [b] (in percentage of total population)	40	40

Note: [a] Source World Bank (2019a); [b] The calculation executed for these indicator's values are presented in appendix D

We conclude that Ghana and Nigeria present similar urbanization rates, however Nigeria has a bigger total population. Consequently, Nigeria presents a bigger consumer market than Ghana. Also, both countries present the same percentage of middle-class consumers. Additionally, company A's typical consumer, which is the bottom of the class consumer, has the same expression of 40% of total population in both countries. Nigeria has a bigger overall consumer market than Ghana, consequently Nigeria has a bigger bottom of the class consumer base than Ghana. Lastly, Nigeria's middle-class presents a bigger household income than Ghana. Finally, we can conclude that Nigeria is the best performing country in this analysis.

4.2.2.3. Market Growth Analysis

The market growth analysis is divided in traditional market growth indicators, which are standard indicators typically used in a market growth analysis, and product/industry-specific indicators, which are indicators that analyze the dynamics of palm oil markets demand in each country.

Table 10 presents the results of traditional indicators of market growth. Between 2008 and 2018, Nigeria presented a bigger population growth than Ghana. In this ten-year period this population growth for Ghana represented an increase of 6 million inhabitants and for Nigeria represented an increase of 45 million inhabitants. In terms of urban population growth, in the same period, Nigeria presented a bigger

growth than Ghana. We conclude the Nigerian urban market is growing at a faster paste than Ghana's additionally, sustained by an overall bigger population growth. We can conclude that this growth is expected to continue in both Ghana and Nigeria since both countries have more than half of the population with less than 24-year-old, aligned with a high average fertility rate. Finally, we can conclude that Nigeria is the best performing country in this analysis.

Table 10 - Traditional indicators of market growth

Indicators	Ghana	Nigeria
Population growth between 2008-2018 [a] (in percentage)	26	30
Income per capita growth between 2007-2017 [a] (in percentage)	50	24
Urban population growth between 2008-2018 [a] (in percentage of total population)	14	21
Population under 24-year-old (2018) [a] (in percentage of total population)	56	62
Average fertility rate (2018) [b] (in number of children per woman)	4	4

Sources: [a] World Bank (2019a) ; [b] Central Intelligence Agency (2019a)
Note: The indicator of income per capita growth was not analyzed in the period of 2008-2018 because no data was available for 2018, only for 2017. Therefore, we conducted the analysis during the same ten-years period but from 2007 to 2017.

Next, we present the results for product and industry specific indicators: average food expenditure, average oils and fats expenditure, vegetable oil income elasticity, palm oil and vegetable oil consumption evolution, and substitute products consumption evolution.

Table 11 presents the results of the indicators of household expenditure, by food category and vegetable oils category. In the analysis we used 2013 as the base year for the analysis of Ghana and 2010 as the base years for the analysis of Nigeria. In order to correctly access each country individually we selected the year in which all the information for the required indicators was available. No information was uncovered for the indicator of share of palm oil expenditure as a share of total food expenditure in households.

Table 11 - Indicators of household expenditure, by food category and vegetable oils category.

Indicators	Ghana (2013) [a]	Nigeria (2010) [b]
Average food expenditure (in percentage of total household expenditures)	39	60
Average oils and fats expenditure (in percentage of total household food expenditures)	1,5	3,7

Sources: [a] Ghana Statistical Service (2014); [b] Hollinger and Staatz (2015)

Table 12 presents the results of the analysis conducted on the indicator of vegetable oils income elasticity[8], for Ghana and Nigeria. These values were recorded in 2012. Table 12 data is applicable to all vegetable oils, where palm oil is included. No information was found specifically for palm oil, therefore these product category values are used to analyze palm oil income elasticity.

[8] Income elasticity values are a measure of how the demand for a product varies according to the increase in income. If the elasticity of a product is 1,0 then the product's demand grows at the same rate as the income. A value lower than 1,0 indicates that demand decreases as income rises. A value higher than 1,0 indicates that demand increases at a faster rate than income rises (Hollinger and Staatz 2015).

Table 12 - Expenditure elasticities of vegetable oils demand, by country and place of residence

Place of Residence	Ghana [a]	Nigeria [b]
Urban	0,51	0,67

Sources: [a] Hollinger and Staatz (2015); [b] Me-Nsope and Staatz (2017)

From table 11 we conclude that Nigeria presents a bigger consumption per household of vegetable oil than Ghana. Also, Ghana and Nigeria still have a large share of food expenditure in total household expenditures. From table 12 we understand that both countries present a low-income elasticity for vegetable oils. Also, Nigeria presents a slightly higher elasticity than Ghana. Therefore we can conclude that, in both countries, with income growth there will be a decrease in the consumption of vegetable oils. From these analyses we conclude that Nigeria outperformed Ghana.

Table 13 presents the results from the indicators of palm oil and vegetable oils consumption.

Table 13 - indicators of palm oil and vegetable oils consumption

Indicators	Ghana	Nigeria
Vegetable oil intake in 2013 (in kilograms per capita) [a]	8	12
Palm oil intake in 2013 (in kilograms per capita) [a]	3	6
Palm oil intake as a share of total vegetable oil intake in 2013 (in percentage) [b]	42	48
Per capita growth of vegetable oil intake between 2003-2013 (in percentage) [b]	-2,5	-20,7
Per capita growth of palm oil intake between 2003-2013 (in percentage) [a]	54	-1

Note: [a] Source Food and Agriculture Organization of the United Nations (2019); [b] The calculation executed for these indicator's values are presented in appendix D

Table 14 presents the results from the indicators of palm oil substitute product analysis.

Table 14 - Indicators of palm oil substitute product analysis

Indicators	Ghana	Nigeria
Groundnut oil intake in 2013 (in kilograms per capita) [a]	2	2
Per capita growth of Groundnut Oil Intake between 2003-2013 (in percentage) [a]	-43	-52
Groundnut oil as a share of total vegetable oil intake in 2013 (in percentage) [b]	27	16

Note: [a] Source Food and Agriculture Organization of the United Nations (2019); [b] The calculation executed for these indicator's values are presented in appendix D

From table 13 we conclude that Nigeria, in 2013, presented a bigger vegetable oil intake than Ghana. In both countries, in 2013, palm oil accounted for almost half of the populations' vegetable oil intake. Between 2003 and 2013 the vegetable oil intake decreased for both countries. However, it decreased two times more in Nigeria than in Ghana. However the overall trend of decreased of vegetable oil intake was not as pronounced in palm oil intake. Actually, palm oil intake increased in Ghana by 54% and in Nigeria remained stable. From table 14 we understand that the decrease of vegetable oil intake was most felt in the second most consumed vegetable oil in both countries, groundnut oil. Between 2003 and 2013 the consumption decreased around 50% for both countries. Finally, we can conclude, from these indicators of vegetable oil consumption, that Nigeria is the best performing country in this analysis because it presents the bigger consumption of per capita palm oil consumption.

Finally, we conclude, from the market potential factor group, that Nigeria outperformed Ghana in all analyses. Consequently, Nigeria is the best performing country in this factor group.

4.2.3. Local Production & Distribution

In this section we present the results of local production & distribution group factor analysis. In this factor group we analyzed the indicators: production growth, production system, supply chain, market players and infrastructure analysis.

4.2.3.1. Analysis of Production Growth

The analysis of palm oil production is composed by the analysis of growth in production.Table 15 presents the results of the indicator of palm oil production evolution between 2008 to 2018.

Table 15 - Indicator of palm oil production growth between 2008-2018, by country

Indicator	Ghana	Nigeria
Growth of palm oil production between 2008-2018 (in percentage)	-1,3	19,4

Source: United States Department of Agriculture (2019)

As we already explained in section 3.3, before the 1960s Nigeria was the major palm oil producer in the world. Therefore, the country always had a strong production. In 2008 already produced 820 thousand tons of palm oil, while Ghana only produced 380 thousand tons. Between 2008 and 2018 Nigeria had a bigger increase in production than Ghana. However, between 1998 and 2018 Ghana had 238% growth in production. Nevertheless in the last ten-years period Nigeria has maintained a continuous growth that Ghana has not been able to sustain. Lastly, we conclude that Ghana outperform Nigeria in this indicator because it has reduced its palm oil production in the last ten years.

The informal economy in Africa is highly dependent upon cross-border trade. According to International Trade Centre (2012) legal and banned products are informally trade across borders. After, the products are openly sold by registered traders, even levies on those products are paid to local administration. Since informal trade occurs parallelly to formal trade no data is recorded by national entities. Therefore, no one knows the actual size of these market.

Palm oil is one product that is frequently traded informally at borders. According to International Trade Centre (2012, p.34):

> "palm oil border trade at a small scale is done by traders using informal transit services and paying only a token sum to customs in order to cut the cost of clearing. Informal trade for re-export is considerably larger and highly organized in finance operations, transport, and storage, as well as trade information networks. Big transnational or national networks of traders organized by ethnic groupings are handling the important trade in palm oil originating from the region and from imports (mainly from Asia). The west African region acknowledges the importance of palm oil re-exports for the region; its list of major products for re-export in West Africa include palm oil and its fractions, whether or not refined".

The re-export market has a big importance in supplying Nigeria with its palm oil deficiencies. Some of the demand is supplied by the formal market, however the majority is supplied by informally trade across borders (International Trade Centre 2012). No information was uncovered for Ghana's informal market. Since the informal trade cannot be measure, we cannot truly access Nigeria's or Ghana's palm oil demand. Moreover, the market size analysis performed is an underestimate of the real palm oil market's in these countries.

4.2.3.2. Analysis of Production System

Table 16 presents the results on the indicators of palm oil production, by country. From table 16 we conclude that in both Ghana and Nigeria palm oil tree production is mainly in the southern part of the countries. Nigeria presents an eight times larger area of palm oil tree production than Ghana. Lastly, we conclude that both countries present the same type of palm oil tree production system and palm oil processing system. Therefore, we conclude that it is valid in the following analyses to directly compare their production system.

Table 16 - Indicators of palm oil production, by country

Indicators	Ghana	Nigeria
Palm oil production regions	western, central and eastern regions	central and south regions
Palm tree area planted	330 000 hectares	2 514 090 hectares
Palm tree production system	smallholders and estate plantations	smallholders and estate plantations
Palm oil processing system	small, medium and large scale mills	small, medium and large scale mills

Note: the research executed for the determination of these indicators is presented in appendix D

Table 17 presents the results on the indicators on Ghana's and Nigeria's palm oil farming systems, by the two types of farming system. From table 17 we conclude that in both Ghana and Nigeria smallholders' farmers account for most of the palm oil tree cultivated area. Even with low yields, in both Ghana and Nigeria, smallholders' farmers produce around two thirds of all palm fresh fruit brunch produced in the countries. Ofosu-Budu and Sarpong (2013, p.351) identified in Ghana the main reasons for low productivity in private small-scale farms are "old, low-producing tree stock, poor maintenance, lack of application of fertilizers and often lack of establishment of cover crops". Ghana and Nigeria share these same problems in their palm oil farming techniques (Gourichon 2013). Additionally, in Nigeria the dominance of wild groves as the main production system in the country has affected the competitiveness of the palm oil sector, since this system has the lowest yields (Gourichon 2013). When we compare the yield of estates in both Ghana and Nigeria, whit the yield of 17,6 tons per hectare of Malaysian estates we conclude that this difference in yield has a direct impact the countries' palm oil sector competitivity (Fold and Whitfield 2012). Finally, we conclude from these analyses that both Ghana and Nigeria have production system with low yielding that is mostly represented by smallholders' farmers. Consequently, both countries are tied in terms of their production system analysis.

Table 17 - Indicators of palm oil farming systems in Ghana and Nigeria

Indicators	Ghana		Nigeria	
	Smallholders	Estates	Smallholders	Estates
Area owned by player as a share of total area harvested (in percentage)	75	25	95	5
Fresh fruit brunch produced by player, as a share of total fresh fruit brunch produced (in percentage)	72	28	96	4
Fresh fruit brunch yield by player (in tons per hectares)	3-10	10-13	1,5-3	5

Note: the research executed for the determination of these indicators is presented in appendix D

Table 18 presents the results of the indicators of Ghana's and Nigeria's processing for each type of production systems. From table 18 we conclude in Ghana that small scale and medium scales processors account for 80% of fresh fruit brunches processed in the country. We cannot compared it to Nigeria

since no data was found. In terms of crude palm oil produced in Ghana half is produced by large scale processors, whereas in Nigeria small scale mills account for most of the crude palm oil produced in the country. Finally we can conclude that in Nigeria small processors account for 75% of palm oil processed and produced in the country. Therefore, in this analysis Nigeria presents a more attractive market that it is more dependent upon small producers and processors than Ghana. Consequently, Nigeria outperformed Ghana in this processing system analysis.

Table 18 - Indicators of palm oil processing systems in Ghana and Nigeria

Indicators	**Ghana**		**Nigeria**	
	Small mills	Medium and large mills	Small mills	Medium and large mills
Fresh fruit brunch processed by player, as a share of total fresh fruit brunch produced (in percentage)	68	32	No data available	
Crude palm oil produced by player, as a share of national palm oil production (in percentage)	45	55	75	25
Special palm oil produced, as a share of national palm oil production (in percentage)	No data available		20	
Self-sufficiency ration of refinery's on national special palm oil production (in percentage)	40		50	

Note: the research executed for the determination of these indicators is presented in appendix D

Moreover, the majority of palm oil produced in both countries is crude palm oil because of the strong market share small and medium scale processors represent in both countries. For special palm oil to be obtained the fresh fruit brunches must be processed within 48 hours from harvest. In Ghana and Nigeria, the small scale and manual processors can store the fresh fruit brunches from 1 to 4 weeks. Moreover, the smallholder farmers cannot cost-effectively send the fresh fruit brunches to the mills within 48 hours (Angelucci 2013). Consequently, in both Ghana and Nigeria the special palm oil is mostly produced by estate plantation (Gourichon 2013; Ofosu-Budu and Sarpong 2013). These estates are all integrated in value chains operated by companies which either have mills and refineries in the country or sell it to their processors abroad. The smallholders and small and medium scale mills are unable to meet the 48 hours window which enables them to sell palm oil to refineries or to the international market (Angelucci 2013). Since smallholders and small and medium scale mills represent a big market share of the palm oil national market, this inability compromises the competitiveness and long-term success of the national palm market in Ghana and Nigeria.

Finally, we conclude, from the production system factor group, that Nigeria outperformed Ghana in all analyses. Consequently, Nigeria is the best performing country in this factor group.

4.2.3.3. Analysis of Supply Chain

Table 19 presents the results of the indicators of Ghana's and Nigeria's palm oil supply chain systems. No information was uncovered on the type of market — formal or informal — in which these supply chain players operate on. From table 19 we conclude that both countries have a similar national supply chain, which is characterized by many intermediaries. Some like brokers and wholesalers have a local reach, while national trader are the only ones that act nationwide. Only national traders connect the different local markets, especially important in the northern region where palm oil is not produced. The large-scale processes, because of their production capacity, are able to sell directly to the domestic and

international markets. However, the smaller processers have to sell their production to intermediaries, which will sell it to the local market or exported it (Dada 2007).

Table 19 - Indicators of palm oil supply chain characterization, by country

Indicators	Ghana	Nigeria
Presence of brokers	Yes	Yes
Presence of national traders	Yes	Yes
Presence of palm oil dealer association	No data available	Yes
Presence of wholesalers	Yes	Yes
Characterization of household palm oil value chain	Small scale businesses	Small scale businesses

Note: the research executed for the determination of these indicators is presented in appendix D

For both Ghana and Nigeria, we were able to gather information and conclude that the majority of palm oil supply chain is characterized by small scale businesses. The value chain is based on small scale producers who sell to small scale mills or households doing manual processing. Therefore both countries present a fragmented value chain controlled by some players which successfully separates suppliers and buyers. We conclude that this market structure is the desired by Company A, consequently both countries are attractive. From this analysis we cannot conclude on a country's preference. If Ghana does not present palm oil dealer association this could have been the deciding factors, however no information was availed. Consequently, both countries are tied in this analysis.

4.2.3.4. Analysis of Market Players

In this section we present the results of the research on the indicator of Ghana's and Nigeria's palm oil players. The players analyzed were production players, import players, distribution players and retail players. Once again, no information was uncovered on the type of market — formal or informal — in which these players operate on.

Frist, we present the results of the research on the indicator of Ghana's and Nigeria's palm oil production players.

According to Angelucci (2013) in Ghana there are 400 small processors. They are characterized by a weak milling capacity as well as low quality of the oil produced. In Ghana there four large mills, and 12 medium mills. According to Fold and Whitfield (2012) a 2006 survey conducted by Food and Agriculture Organization identified that four of the medium scale mills were not viable companies. According to Fold and Whitfield (2012) until recently the main buyer of medium and large scale mills was Unilever. We conducted our analysis on the four players that own the large mills because they are the players that produce refined palm oil, the product being analyzed. During the 1970s the Ghanaian governments focused on the development of the local palm oil market and created several estates. After several attempts these ventures failed and the estates started being privatized in the 1990s (Carrere 2013; Fold and Whitfield 2012). Currently, the main players are: Presco Plc, SIFCA group and Wilmar in a joint venture, Norpalm AS and PZ Cussons in a joint venture, and SOCFIN group.

No specific data was uncovered in the number of small and medium size processors in Nigeria. Only was available data on large processors. Typically, these companies have fully integrated supply chain. They own estate farms as well as large primary and secondary processers (Gourichon 2013). During the 1960s the Nigerian governments focused on the development of the local palm oil market and

created several estates. After several attempts these estates did not achieve the success desired and started being privatized in the 1990s (Carrere 2013). Currently, the main players are: Presco Plc, SOCFIN group, Wilmar and PZ Cussons and SIFCA Group. The two largest producers in Nigeria are Okomu and Presco. According to PricewaterhouseCoopers (2019, p.6) they hold a "sizeable market share, in terms of value —due to their combined capacity — compared to small-scale farmers".

In appendix D is presented an overview analysis of the players previously mentioned for both Ghana and Nigeria. Form this analysis we concluded that Ghana and Nigeria have in common the same major's players. In both countries are present: Presco Plc, SIFCA group, Wilmar, PZ Cussons SOCFIN group. All players produce technical and/or special palm oil, and some also produce refined palm oil. From this analysis we can also conclude that most of the players have a vertically integrated supply chain. All own estates, mills, and some refineries. In both Ghana and Nigeria the mills are all located south, near the plantations. Also, these players have a presence in other countries in west African. Consequently, their supply chains have expanded cross national borders. Crude palm oil can be produced in one country, refined in a nearby country, and return to the initial country for sale. Many of these players use their plantations in other West Africa countries, for example in Ghana and Ivory Coast, to supply the Nigerian market.

Next, we present the results of the research on the indicator of Ghana's and Nigeria's palm oil distribution players. Half of Nigerian palm oil production is in the south of the country. However, because it is consumed nationwide palm oil distributers have an important role in supplying the northern part of the country. The oil merchants are big players in palm oil distribution. They bulk-buy in the south and deliver it to the northern states according to Gourichon (2013). No specific data was uncovered on the type of businesses that distribute palm oil. We only uncover that palm oil associations have a deciding role in the players you enter to palm oil distribution, according to Gourichon (2013). For Ghana, we did not uncover any information on the type of businesses or structure of the palm oil distribution market.

Next, we present the results of the research on the indicator of Ghana's and Nigeria's palm oil retail players. Hollinger and Staatz (2015) explained that there are no studies on West Africa's food retailing — either modern retailing or traditional — describing their business models and procurement practices. Modern food retail includes supermarkets, hypermarkets, gas marts and convenience stores. Also, there are no basic information on the size and structure of food retailing. Mainly because of the retailing diversity, and the difficulty in measuring the importance of the informal economy. Overall street markets are the most important channel, accounting for half of food retailing in Ghana and Nigeria, according to Hollinger and Staatz (2015). Street markets are located in large open areas and are composed of individual sellers with small stands selling from basic food staples to fruits and vegetables and meat and fish. Typically, the wholesalers are located nearby and are the main suppliers to all the individual sellers (Hollinger and Staatz 2015). In appendix D is presented an overview analysis of the players in formal retail in Ghana and Nigeria. Form this analysis we concluded that in both Ghana and Nigeria the players are concentrated in the southern region of the country, and only in some of the main urban areas. Ghana presents a better developed formal market however, only one player had an expressive presence in the country with 41 retail stores. In Nigeria the biggest player has around half of the stores. In both countries

this is the preferred channel for the middle-class consumers. In these countries the bottom of the class consumers chooses street market over modern retail because they offer a broader range of products at lower prices, moreover they can bargain for prices and taste products (Hollinger and Staatz 2015).

Next, we present the results of the research on the indicator of Ghana's and Nigeria's palm oil import players. Palm oil can be imported from neighboring countries or sourced worldwide. No specific data was uncovered on the type of businesses or structure of palm oil import market. Moreover, we did not found any information on role of palm oil associations in palm oil imports, but we can suppose that they have an important role. According to Hollinger and Staatz (2015) in Ghana and Nigeria most grocery wholesalers and retailers are also importers. Normally, they have satellite outlets or representatives in the main open markets.

Finally, we conclude from the players analysis in both countries the retail structure and import structure presents the type of clients' company A typically works with. These are small wholesalers that sell locally and import the food sold. Additionally, company A's typical consumer, which is the bottom of the class consumer, shops only in the informal. Therefore we conclude that both countries have desired market structure for company A to enter.

From this analysis of market players we cannot conclude on a country's preference. Consequently, both countries are tied in this analysis.

4.2.3.5. Distribution Infrastructure Analysis

In this section we present the results of the research on the factors of Ghana's and Nigeria's distribution infrastructure. The indicators researched were road infrastructure, railway infrastructure and seaport infrastructure.

In Ghana as well as Nigeria road transportation is most used mode of transportation for both passengers and cargo (Ghana Railway Development Authority of the Ministry of Transport 2013; World Bank 2014b). Road transportation represents more than 95% of passenger and freight transported in both countries (Ghana Railway Development Authority of the Ministry of Transport 2013; Japan International Cooperation Agency 2014). From this indicator we conclude that both countries present the same distribution network system.

First, we present the results of the research on the indicators of Ghana's and Nigeria's road network and infrastructure analyses. The high usage of the road network can be explained by it being the only transportation network, in both countries, that guarantees the communication between all districts and regions, providing access to metropolitan or rural settlements (Ghana Railway Development Authority of the Ministry of Transport 2013; World Bank 2014b). Moreover, it is the only physical transportation network that allows transborder communication since, in both countries, the railway system does not extend beyond national borders. Consequently, Ghana and Nigeria have developed and extensive road network (Ghana Railway Development Authority of the Ministry of Transport 2013; Foster and Pushak 2011b). Table 20 presents road indicators on Ghanaian and Nigerian road systems, reporting to 2006 values.

Table 20 - Ghana's and Nigeria's 2006 road indicators compared to Africa's low-income countries and Africa's middle-Income countries in 2006

Indicators	Africa's low-income countries	Ghana	Nigeria	Africa's middle-income countries
Paved road density (in kilometers per thousand square kilometers of arable land)	86,6	158,1	174,1	507,4
Unpaved road density (in kilometers per thousand square kilometers of arable land)	504,7	804,0	94,2	1 038,3
GIS rural accessibility (percentage of rural population within 2 kilometers of all-season road)	21,7	24,0	19,7	59,9

Note: Ghana's, Africa's low-income countries and Africa's middle-income countries data adapted from Foster and Pushak (2011a), Nigeria's data adapted from World Bank (2014a)

According to table 20 only 24% of Ghanaians and around 20% of Nigerians in rural population live within two kilometers of an all-season road. These values are well below the 60% average in Africa's middle-income countries. As Foster and Pushak (2011a, 2011b) explained in both countries these road extension seems to be inadequate to correctly access the rural population. Also, Nigeria presents the smallest unpaved road density which has a direct impact on rural accessibility, being far below the average of Africa's low-income countries. However, Ghana presents an unpaved road density value between Africa's low-income countries and middle-income countries values. When we look at the low paved road density, we understand why Ghana still has a low rural accessibility. Finally we can conclude that Ghana has better accessibilities to rural areas, then Nigeria. However, Nigeria has the second most extensive road system in Nigeria which is the most important factor in this analysis (World Bank 2014a). Overall, Nigeria is the best performing country in this analysis.

Next, we present the results of the research on the indicators of Ghana's and Nigeria's railway network and infrastructure analyses. From table 21 we conclude that Nigeria presents a better distributed railway system.

Table 21 - Ghana's and Nigeria's railway indicators

Indicators	Ghana (2013)	Nigeria (2008)
Railway distribution	Southern regions	Nation wide
Railway system operational (in percentage of total railway)	13	20
Wagon fleet for container transportation	No	No
Railway transboundary connection	No	No

Note: the research executed for the determination of these indicators is presented in appendix D

In 2013 and 2008, Ghana and Nigeria respectively, had most of the railway system inoperative. In appendix D is presented an overview analysis of the railway system for both Ghana and Nigeria. From this analysis we conclude that both countries have started to invest in the railway system to address the low rate of railway operational. Nigeria started in 2002 and Ghana only started in 2017, therefore today Nigeria presents a better railway system. Since 2013 Nigeria started to use railway system to transport containers. Therefore, we conclude that Nigeria presents a better suited railway system.

Next, we present the results of the research on the indicators of Ghana's and Nigeria's seaport network and infrastructure analyses.

Ghana has two deepwater ports, Tema and Takoradi. These ports have received extensive rehabilitation over the years. Nevertheless the demand for these ports has experienced a continuous increase which

has led to an increasing level of congestion, and longer cargo dwell time (Ghana Railway Development Authority of the Ministry of Transport 2013). The Ghanaian Tema port is in country's capital of Accra. This is the country's main port. Not only receiving most of the country's imports and exports, as well as handling the transshipments of cargo to the nearby countries of Burkina Faso, Niger and Mali. In period comprised of 2000 to 2011 the container traffic in the port more than double, from 200 000 to 750 000 twenty-foot equivalent unit (TEUs). In the same period the cargo handled increased from 6 million to 11 million tons. The country's second, Takoradi port, is focused on the export of bauxite and manganese and the import of inputs for the cement industry. It has also experienced a smaller increased in container traffic from 43 000 TEUs in the year 2000 to 53 000 TEUs in 2011 (Ghana Railway Development Authority of the Ministry of Transport 2013). In terms of shipping companies we identified 25 companies that operate between portuguese ports and Ghanaian ports (Agência para o Investimento e Comércio Externo de Portugal 2017c).

Nigeria has six deepwater ports distributed along the sea line. In the Lagos state there two ports Lagos port complex and Tin Can Island port complex, in the Cross River State there is the Calabar port complex, in the Delta state there is the Delta port, finally in the River state there are the Rivers port complex and Onne port complex (Nigerian Port Authority 2019c). Some of these ports are more directed for the expedition of fluid products as is the case of Rivers port, Calabar port and Onne port. This last one accounts for 65% of the export cargo through the Nigerian Sea Port, due to oil and gas exports (Nigerian Port Authority 2019b). Nevertheless all ports presented work with containerized cargo. The Nigerian Lagos port, situated in Apapa at the Lagos, accounts for 70 per cent of Nigeria's non-oil exports (Lagos Chamber of Commerce and Industry 2016). The port is being particularly affected by the increasing congestion outside port gates. The Lagos area is a populous urban area and a major transit route of imported refined petroleum products which causes continuous congestion on port access (Lagos Chamber of Commerce and Industry 2016). The World Bank (2016) annual report on Ease of Doing Business ranked Nigeria in 169th place out of 189 countries. This low score was in part due to low performance on factor trading across borders which is measured by the indicator of country's ports effectiveness. Here Nigeria was ranked 182rd in 185 countries. Since 2013, Nigerian ports have been continuously nominated has the most expensive in West Africa (Lagos Chamber of Commerce and Industry 2016). The cost of importing and exporting goods in Nigerian ports remains an additional restraint. The Lagos Chamber of Commerce and Industry (2016, p.11) explains that on the import side "extra costs related to yard handling fees (which include demurrage and storage) represent an extraordinary 77% of the total cost, driven by longer-than-ideal border clearance times, yard handling procedures, and informal payments to customs and other government agencies". The volume in Lagos port increased from 336 thousand TEUs in 2006 to 1.1 million TEUs in 2015 (Foster and Pushak 2011b; Lagos Chamber of Commerce and Industry 2016). Reaching the fourth place, in African ports, in terms of annual quantity of TEUs handled. Nevertheless, in 2014 it lagged behind the top three ports in Africa: Egypt with 8 810 990 TEUs, South Africa with 4 831 462 TEUs and Morocco with 3 070 000 TEUs (Lagos Chamber of Commerce and Industry 2016). In terms of shipping companies we identified 31 companies that operate between Portuguese ports and Nigerian ports (Agência para o Investimento e Comércio Externo de Portugal 2018).

In appendix D is presented an overview analysis of the seaport system problems, for both Ghana and Nigeria.

After, these analyses of Ghana's and Nigeria's seaport network and infrastructure we conclude that Ghanaian ports are least congested than Nigeria ports. First both countries present shipping companies that operate between Portugal and these markets, consequently Ghana and Nigeria successfully performed in this decisive factor. Ghana presents least options in terms of shipping companies than Nigeria. Finally, we conclude that overall Ghanaian ports present a better port infrastructure which is least congested and therefore is the best performing country in this analysis.

Finally, we conclude from the infrastructure analysis that Nigeria outperformed Ghana in the road and railway analyses, and Ghana outperformed in the seaport analysis. Consequently, Nigeria is the best performing country in the infrastructure analysis.

4.2.4. Product Characterization

In this section we present the results from the research conducted on palm oil preferences and uses, packaging preferences as well as buying preferences. In our research no information was uncovered on the indicators: consumers brand loyalty, consumers attitudes toward products of foreign origin, and customers' needs and desires.

Table 22 presents the results on the indicators of consumers preferences on palm oil and vegetable oils. For the indicator of refined palm oil uses no information was found for both Ghana and Nigeria. No information was found for the indicator of household palm oil purchase frequency for Ghana and Nigeria. No information was found for the indicator of consumer palm oil packaged size preferences for Ghana and Nigeria.

Table 22 - Indicators of consumers' preferences on palm oil and vegetable oils

Indicators	Ghana	Nigeria
Consumer palm oil preferences (crude or refined palm oil)	Crude Palm Oil	Crude Palm Oil
Palm Oil Weekly Consumption (in national average household size)	No data available	2 litres of palm oil
Consumer Vegetable Oil Packaged Size Preferences (in liters)	1,5 – 5	20
Retailer Palm Oil Packaged Size Preferences	22,5 liters jerry cans	20 liters jerry cans

Note: the research executed for the determination of these indicators is presented in appendix D

Table 23 presents the results of consumers buying preferences. No information was found on Ghanaians' and Nigerians' preferences on the place to buy palm oil or vegetable oils in general.

Table 23 - Indicators of consumers' preferences on retail space to shop

Indicators	Ghana	Nigeria
Food product sells in modern retail (in percentage of total food sells)	1-2	1-2
Food product sells in informal retail (in percentage of total food sells)	98-99	98-99

Note: the research executed for the determination of these indicators is presented in appendix D

From table 22 conclude that in both countries crude palm oil is the preferred type of palm oil. Therefore consumers do not preferred the type of product sold by company A. However, Company A sells the type of package preferred for both Ghanaian and Nigerian consumers and retailers. From table 23 we conclude that Ghanaian and Nigerian consumers prefer to buy food in informal retail, which is the retail chain than Company A typically operates on. Finally, we conclude, from the market potential factor group, that neither country excelled in these analyses. Consequently, both countries are tied in this factor group.

4.2.5. Market Access Analysis

In this section we present the results from the research conducted on country effect on market access, sample countries' trade relation with Portugal as well as sample countries' palm oil trade barrier.

Table 24 presents the results from the indicators of country effect and product effect analysis. We did had access to the information for the indicator portuguese palm oil imports growth between 2014-2018 because the source, International Trade Center (2019), has no publicly available information for Portugal palm oil exports Ghana and Nigeria prior to 2018.

Table 24 - Indicators of country effect and product effect analysis

Factors	Indicators	Ghana (2018)	Nigeria (2018)
Country Effect	**Portugal's 2018 Import Penetration** [a, b] (share of portuguese imports in country's total imports)	0,49	1,08
	Portugal's 2018 raking as a supplier [a, b] (performance of portuguese imports in country's overall imports)	24th	19th
	Portuguese imports growth between 2014-2018 [a, b] (in percentage)	27	-57
Product Effect	**Palm Oil Imported from Portugal in 2018** [c] (in percentage of total palm oil imported)	0	0

Sources: [a] Agência para o Investimento e Comércio Externo de Portugal (2017c); [b] Agência para o Investimento e Comércio Externo de Portugal (2018); [c] International Trade Center (2019).

From table 24 we conclude that portuguese imports play a small percentage of Ghanaian and Nigerian imports. Nevertheless, Portuguese imports are better ranked in Nigeria than Ghana. Between 2014 and 2018 the Portuguese imports decreased by more than 50%. This is explained by, in 2016, Nigeria experienced its first years of recession in twenty-five years (World Bank 2019e). We conclude that, even with this significant decrease, portuguese imports have a better performance in Nigeria than Ghana.

Table 25 presents the results of the indicators of analysis countries' trade relation with Portugal.

Table 25 - Indicators of analysis countries' trade relation with Portugal

Indicators	Ghana (2018)	Nigeria (2018)
Trade Organization Membership	World Trade Organization	World Trade Organization
Trade Block Membership	Yes	Yes
Preferential Treaty with Portugal	No	No
Preferential Treaty with European Union	Yes	No
System Guiding Portugal's Imports Tariff System to the Country	World Trade Organization tariffs	World Trade Organization tariffs

Note: the research executed for the determination of these indicators is presented in appendix D

From table 25 we conclude that portuguese imports are conducted by the same system in both countries. This analysis is the basis for the analysis of trade barrier that is presented next. Table 26 presents the results of the indicators of trade barrier analysis.

Table 26 - Indicators of trade barrier analysis

Indicators	Ghana (2018)	Nigeria (2018)
Tariff Barrier		
Tariff on Refined Palm Oil (in percentage)	35	35
Value Added Tax (in percentage)	15	5
Additional Levies		
Additional Import Levy on Refined Palm Oil of 25% CIF cost	No	Yes
ECOWAS Levy is 5% CIF cost	Yes	Yes
National Health Insurance levy 2,5% of added tax value	Yes	No
Export Development and Investment Fund levy is 5% CIF cost	Yes	No
Port Development levy is 7% of import duty cost	No	Yes
Comprehensive Import Supervision Scheme is 1% FOB cost	No	Yes
Non-Tariff Barrier		
Local Product Requirements for Palm Oil Imports	No	No
Quota on Refined Palm Oil Imports	No	No
Ban on Refined Palm Oil Imports	No	Yes

Note: the research executed for the determination of these indicators is presented in appendix D

From table 26 we conclude that both Ghana and Nigeria present the same import tariff level for refined palm oil. However, Nigeria presents a smaller value added tax on refined palm oil than Ghana. In terms of additional levies Ghana outperformed Nigeria by presenting a smaller pack of additional levies. We conclude from this trade barrier analysis that Ghana outperformed Nigeria. Lastly, we detected that Nigeria has an import ban in refined palm oil. Therefore, Nigeria is eliminated from the analysis since it is not possible to export refined palm oil to the country.

4.2.6. Final Selection

In table 27 we present the results of each factor group analysis. Overall, we conclude that Ghana and Nigeria were tied in our analysis, since both exceled in the same number of factor groups. Additionally, in the market access we detected that Nigeria has an import ban on refined palm oil therefore, the country is excluded from the analysis.

Table 27 - Results of in-depth screening phase

Factor group	Ghana	Nigeria
Trade analysis	x	
Market potential		x
Local production and distribution		x
Product characterization	Tied	
Market access	x	Country excluded

Finally, we conclude that Ghana is the country selected to move to the last stage in the analysis.

4.3. Discussion

Before the preliminary analysis only Gabon was eliminated from the sample due to lack of public available data. All the remaining three countries were analyzed. Gabon's elimination, before the analysis began, affected the model's results. However, this is a problem in both emergent and frontier markets that we in this research cannot overcome.

Cavusgil's 2018 model of Market Potential Index is a country specific model. Therefore, the selected countries may not be ideal for the product being studied, since product specific indicators are only introduced in the next stage of the analysis. Consequently, a country may have be wrongly moved to the next stage. To address this limitation, we suggest the introduction of product specific indicators in the model, for example, the "Trade Analysis" factor group indicators. In this master dissertation, we were not focused on assisting the case study's decision maker in his selection process, but we are focused on studying the model's factors therefore, this limitation did not affect our analysis. Nevertheless, we recognize that it affect the model's results.

Mullen and Sheng (2006) performed an analysis on Cavusgil's (1997) by testing two weights schemes for each factor to explore the sensitivity of this index to the choice of weights. As expected, the results showed that the choice of sample, indicators and weights directly affect the index and its rankings, conveying that meaningful indicators and weights will conduce to a more accurate estimation and allow for differences across industries (Sheng and Mullen 2011).

In the preliminary screening, when we analyze each of the three sample countries by their factor performance, we detected that Ghana outperformed the other two countries on the factors of market consumption capacity, market receptivity, economic freedom and country risk. In terms of commercial infrastructure, the result was tied between Ghana and Ivory Coast, outperforming only by one value Nigeria. Ivory Coast only outperformed the other countries on the factor of country's market growth rate, scoring more than ten points above Nigeria and seventeen above Ghana. Nigeria outperformed the other countries on market size, due to its big population size, and market intensity. Even though Nigeria had the best overall score it also presented the worst score on market receptivity, economic freedom and country risk. After this results presentation, we can conclude that the weights assigned had a determinant effect on the overall results as Mullen and Sheng (2006) proved. Nigeria outperformed its counterparts only on two factors however, these were the factors that had highest weights, 25% and 15%. If the factors that Ivory Coast excelled on had higher weights, than this country may not have been eliminated. As we acknowledged in section 3.4.1, the decision of not changing the model's weights could affect the models results. Another major disadvantage is the fact that the model results depend from the sample used. The model does not have an absolute scale to standardized and normalized scores, instead it does these procedures based on the values collected in each analysis, as Mullen and Sheng (2006) proved. However, in this master dissertation we are not focused on assisting the case study's decision maker in his selection process, but we are focused on studying the model's factors. Therefore, our analysis was not compromised by the models results. Consequently, we conclude that in the preliminary screening we succefully analyzed each country on the critical factors we identified in section 2.2.4.2.

For the in-depth screening phase, we used Cavusgil's (1985) model as the basis framework. However, this model did not indicate a selection process to conduct the elimination process. From the state of the art review, we concluded that there is no standard approach in international market selection literature in terms of the selection methods. Root (1994) suggested the decisive factors approach. As Root (1994) highlighted, the decisive factors approach raises the question: if we select a number of factors as decisive, then why should we analyze the non-decisive factors. Therefore, this approach was not selected because we believe that all factor identified for market selection need to be analyzed. If we only analyze certain factors, depending on the decision maker, we create a biased selection criterion. Another popularized approach is the ranking procedure. However, following the same reasoning from the preliminary screening, this approach went beyond the project's focus. For the in-depth screening selection process we chose to analyze each indicator, according to the decision makers criteria, attributing an equal weight system to all factor groups. Nevertheless, we recognize that this approach had a directed impact in the final result, and does not convey the decision markets' factors preferences.

In the state of the art review, we concluded that the context dependency of international market selection has maintained an absence in the literature of an order of preference of factors, that would allow us to make the countries selection in this phase. Only was researched the general order of preference for factors for international market selection of developed markets. In the interview we obtained the decision makers' factors preference. However, his preference list differs greatly from the preliminary screening factors preference for developed markets. From the literature review, we concluded that the most important factor is market size and growth. The next factors had different support in the literature: level of competition, export restriction, political and economic stability. For our decision maker the most important factors in the in-depth screening phase were trade balance indicators, national industry indicators and infrastructure indicators. These differences in factor's importance is due to the phase of selection. Each market selection phase has a different objective and, in the literature review, the authors which presented this data did not specify the phase in the analysis. In the interview our decision maker agreed that the market size and potential is a major decision factor in the preliminary screening, however in the in-depth screening phase the decision maker focus on more operation aspects which is translated by his factors' preference.

Even though, we did not assign a factor's preferences in our analysis Ghana outperformed Nigeria in two of the top three indicators selected by the decision maker. However, this could not have been case and we would have selected a country which performed poorly in the top performing factors for our decision maker. Therefore, in international market selection models there needs to be considered the factor's preferences. We propose a weighting system to convey this factor's preference. First, in order to obtain the top performing countries, in each factor group, we propose the system we develop for the analysis. Thus, the top performing countries are obtained through the decision makers indicators' selection criteria. After, when all factors group have its top performing country, we introduce the weighting system. This allows the introduction of the decision makers factors' preference in the country's final selection.

From the in-depth screening results, we concluded that the “Trade Analysis” factor did not provide accurate data on refined palm oil imports. This was due to the inaccurate information provided by United Nations (2019b) UNcomtrade: United Nations Commodity Trade Statistics Database. This error is a results of the fact that the trade data is reported by the exporter country and not the importing country (United Nations 2019b). Consequently, Nigeria’s import ban on refined palm oil was not identified because there was country’s that reported to export refined palm oil to Nigeria. Therefore, Nigeria should have been removed from the analysis as a result of this indicator being one of the decisive factors in the analysis. We suggest that the “Market Access” factor group be joint it with the “Trade Analysis” group factor to resolve the problem. Nevertheless, in terms of the model’s factors, we conclude that in the in-depth screening we succefully analyzed each country on the critical factors we identified in section 2.2.4.2.

A major limitation of the three-stage sequential approach is the necessity of comparable information, on each indicator, for each country. Moreover, the model is based on the use of secondary data which can pose a problem of reliability (Kumar, Stam, and Joachimsthaler 1994). The preliminary screening model used developed a framework that thoroughly addressed all these concerns. The information required for all indicators was available for all countries and the information corresponded to the same time period. In the in-depth screening we were able to analyze the countries, however we did not found data available for all the indicators. Also, in some cases, the data available was not comparable since the data available was for different years. Moreover, in same indicators we only uncovered data from ten years ago which does not transmit an accurate reality on the market. Especially, frontier markets which are fast changing markets. Cavusgil, Knight, and Riesenberger (2017) highlighted, two problems in data collection in frontier markets, which directly affects per capita income data results:

- Official statistical data does not account for the informal economy. In frontier markets the informal economy can even be bigger that the formal economy;
- The governmental agencies underreport the national income to stay eligible for low-interest loans and grants from international agencies.

As we concluded in the state of the art, these are characteristics of frontier market analysis. All these factors compromise the results obtained. Nevertheless, the focus of this master dissertation was not compromised by the lack of accuracy and comparability of frontier markets data.

An operational limitation was imposed to the chosen model because of the inability to perform the last step of three-stage model. However, this is a known limitation identified by researchers. Kumar, Stam, and Joachimsthaler (1994) suggest that a company contracts a marketing research organization for this stage. Cavusgil (1985) adds visits to the countries, in particular to the potential foreign end users and distributors as well as to industry trade shows and fairs. Despite these limitations, the selected model presents a well-structure framework for the analysis of this case, since this framework can be easily customized, which is ideal for this study. Even though, the last step was not be performed this analysis provides a relevant contribution of frontier market selection factors.

5. Conclusion

Market selection is considered by many researchers the most critical step in an internationalization strategy, because it conditions all the following steps. However, market selection is an often-overlooked aspect of internationalization literature. International market selection literature has a context-dependent feature which has inhibited the creation of a generalized theory that could be applicable to various industries and firms. Consequently, it is still a fragmented field, which requires empirical work.

International commerce is experiencing changing times. New markets are emerging, reshaping trade flows. Especially, African markets. These new emerging markets are defined as frontier markets. Frontier markets present a long-term market potential by offering higher rates of return than developed markets. Therefore, they are ideal for companies which want to grow their business. However, these markets are a risky investment due to their fast-changing nature. International market selection is part of a well-structured strategy that can enhance the success rate of new entrants in these markets. The international market selection literature has not yet studied frontier markets. This is a consequence of frontier markets' lack of necessary information for market selection. Meanwhile the internet enabled market data to be now readily available in public sources (Johansson 2009). Consequently, there are new factors that can be used to study frontier markets which were not available before. This advance motivates the present work.

In this master dissertation, we were focused on studying the market selection factors for frontier markets' analysis. However, the factors used depend upon the models. Therefore, the models in market selection literature were the basis for this analysis, and guided the factors' selection process. The frontier markets have not been included in emergent markets literature, until the 2000s, because no data was available to study them. Consequently, in this research we wanted to assess if international market selection factors, developed for emergent markets' analysis, could also be used for market selection of frontier markets, given that frontier markets are a sub-set of emergent markets (Nellor 2008). Additionally, we wanted to determine which are the critical market selection factors in frontier markets analysis. Furthermore, we sought to determine if there are additional factors which need to be considered when analyzing frontier markets, given these markets characteristics. Lastly, we wanted to teste, the perceived notion in the international market selection literature, that frontier markets cannot be analyzed because of lack of statistical data. One of the main contributions of this work was focused on the development of an in-depth screening stage for frontier markets, where there is an absence in the literature for both emergent and frontier markets.

For this investigation, we elected a case study methodology, because it is an adequate approach for in-depth understanding of cases (Stake 2000). We selected a Portuguese FMCG trading company to serve as the analysis case. This company was chosen because it is a SME, looking to expand its frontier market's presence in order to grow its business. As mentioned in the literature, SMEs are often unable to develop a structure market selection model. Therefore, this is an especially challenging case study. Currently, the company is focused on new trading opportunities in sub-Saharan Africa, due to its long-term economic potential. The case sample was composed of four countries: Gabon, Ghana, Ivory Coast and Nigeria. This sample was given by the company's decision maker. He did not choose frontier

markets in other continents because the company works in the sub-Saharan African region. Therefore, this first election of the initial sample is based on the psychic distance concept. The decision maker selected markets that he believes to have a smaller psychic distance from the markets he already works. In the literature the only solution to address this problem is to consider all possible markets, which is not correct in this case study since company A only wants to expand his business in sub-Saharan Africa. Consequently, we do not contest this bias. For the product variable the decision maker selected refined palm oil. The decision maker selected this product given his knowledge of palm oil being a staple food in these countries. Additionally, it is a product that the company already offers.

From the state of the art review, we concluded that the most appropriate model for this case analysis is the three-stage sequential approach. The model is composed of a preliminary screening stage, an in-depth screening stage, and lastly the final decision stage. This model enables a structured and systematic market selection procedure that guides the decision maker in the selection process. The sequential analysis allows a rapid market selection by reducing the time spent on market analysis. Therefore, this was the most supported model in the literature.

In the literature review, in order to determine the critical market selection factors for frontier market analysis, we first reviewed the factors used on models developed only for developed markets and the factors used on models that analyzed both developed and emergent markets. From this analysis, we were able to determine which are the factors used only for emergent markets. We concluded that the factors used were risk factors and infrastructure factors. The risk factors are composed of factors that analyze political, legal, economic/financial and cultural risks. The infrastructure factors are composed of factors that analyze the country's basic infrastructures, physical transportation structure, retail distribution network and communication infrastructures.

After, we analyzed if the previously determined factors were used in models developed only for emergent market analysis. Additionally, we researched for additional factors used in these models, that were not use in the first group of models. We determined that the risk factors and infrastructure factors, previously identified, had different levels of support in the emergent markets' models reviewed. The most support group factor was the risk group factor, followed by the infrastructure group factor. We also determined that the researchers that did not included these factors in their analyses still acknowledged these factors determining effect in the market selection process. In the review of emergent markets models, we uncovered additional factors, like Khanna, Palepu, and Sinha (2005) institutional infrastructures analysis. Therefore, the institutional infrastructures were added to the infrastructure factor group. This factor group now went beyond the analysis of country's physical infrastructures and also analyzed a country's institutional infrastructures.

Finally, we analyzed if the previously determined factors we used in models developed only for frontier market analysis. However, in the literature there is not a model developed only for frontier market analysis. Therefore, we were only able to analyze if the previously determined emergent markets factors were suitable to analyze frontier markets, given these markets characteristics. In our analysis, we concluded that the emergent markets factors are suitable for frontier market analysis. However, we also detected that some indicators used in the analysis of emergent markets are not suitable for the analysis

of frontier markets, for example, the usage of per capita middle-class income as the country's standard income per capita. We uncovered that should be used the country's median income in order to take into consideration these country's income distribution problems.

The research of international market selection models in the literature review enabled us to develop a framework with the most mentioned factors and indicators in each of the three stages of the sequential approach. This framework was based on the analysis of models developed for developed markets as well as on models developed for developed and emergent markets. To this framework we added the factors and indicators we identified in our research of frontier markets factors. Finally, we were able to present a framework of factors that need to be considered in frontier market selection, using the three-stage sequential approach. Since the international market selection literature does not typically consider a mode of entry, the framework obtained is valid for all modes of entry. Also, the framework does not discriminate by companies' size or industry. This is a general framework that will guide a company's contextualization process when analyzing frontier markets. Since the international market selection literature does not particularize its models, every decision maker before using a model has to contextualized it. This contextualization allows a model to be adapted to decision maker's reality. The contextualization process is attained through an adaptation of the model's factors and indicators.

In the literature review of international market selection models, we did not identify a model which adapted all stages, of the three-stage model, for the analysis of emergent markets. For the preliminary screening stage we elected the 2018 version of Cavusgil's (1997) Market Potential Index model. This model was selected because its indicators are reviewed every year, maintaining a relevant framework. Moreover, since 2014 it expanded its analysis to included frontier markets (GlobalEDGE 2018a). For the in-depth screening, we opted Cavusgil's (1985) model. Firstly, this model is an extension of the Market Potential Index model, therefore can be used with it. Secondly, this is the only framework in the literature which provides a detailed framework of factors for the in-depth screening stage. The last stage of the three-stage model, unlike the other stages, cannot be performed solely on secondary data. In fact this stage requires primary data, this is first-hand information obtained through field research (Cavusgil 1985; Johansson 2009). Consequently, we did not perform the last stage in this work.

Cavusgil's (1985) model selected for the in-depth screening stage does not enumerate the indicators and sources that need to be used. Additionally, in the state of the art review, we concluded that in the in-depth screening no model had been fully developed in the literature. Consequently, to allow the in-depth screening analysis we had to develop the required framework. We successfully developed an in-depth screening framework for frontier markets' market selection, based on Cavusgil's (1985) model and our developed framework which includes all the necessary factors in a market selection as well as the critical factors in frontier markets' analysis. Also, Cavusgil's (1985) model did not present a market selection procedure. From the state of the art review, we concluded that in the literature there is no standard approach in terms of the selection methods. For the in-depth screening selection process, we chose to analyze each indicator, according to the decision makers' criteria, attributing an equal weight system to all factor groups. Nevertheless, we recognize that this approach has a directed impact in the final result, and does not convey the decision markets' factors preferences.

Given the context-dependent nature of international market selection both models, for the preliminary screening and in-depth screening phases, had to be adapted to case-study characteristics.

In the preliminary screening phase contextualization process, we concluded that 2018 version of Cavusgil (1997) model was equipped with the critical factors for frontier markets analysis we identified. The contextualization process not only focus on adapting the model's factors but also customizing the model's weights. However, we did not change the model's weights and used in our analysis the standard model's weights. The main contribution of this work is focused on the development of an in-depth screening stage for frontier markets. Where there is an absence for both emergent and frontier markets. Consequently, the study of the model's weights goes beyond the objective of this master dissertation. In this study, we are not focused on assisting the case study's decision maker in his selection process, but we are focused on studying the model's factors.

In the in-depth screening phase, we performed the required contextualization process taking into consideration the decision maker's experience, industry context, consumer base, international market know-how and product characteristics. Therefore, the contextualized in-depth framework developed "as is" is only valid for portuguese SME trading companies that want to study the feasibility of exporting palm oil to a frontier market. Nevertheless, the contextualized framework contributed to the literature by presenting the first in-depth screening model's application. Additionally, the developed model provided a framework that can be easily customized and adapted to each company's context, which is a necessary step for all market selection models.

After conducting the preliminary screening analysis, we obtained the factors each country appears to excel on. However, we do not have concrete data on country's factor performance. We are only presented with a final standardized and normalized score. This is one of the major disadvantages of an index model as both Ghemawat (2001) and Khanna, Palepu, and Sinha (2005) mentioned. They argue that the values obtained do not take into consideration the country's reality and reduce it to a single value. Also, the model's results depend from the sample, weights and factors used. Therefore, the contextualization process has a determinant effect on the models results. However, these is a limitation on the decision makers ability to customize the model, since some of the sources used in the model do not make their data publicly available, as is the case of Euromonitor International. Finally, this model has limited applicability to frontier markets, especially when Sub-Saharan African countries are considered, since many of them are not included in the pool of countries analyzed. From the forty-six countries the United Nations (2019a) identify as Sub-Saharan African countries, only eleven where included in the analysis: South Africa, Angola, Cameroon, Tanzania, Uganda, Democratic Republic of the Congo, Kenya, Ethiopia, Ivory Coast, Ghana and Nigeria. Nevertheless, this was the only model in the literature that included frontier markets in its sample.

After conducting the in-depth screening analysis, we concluded that the analysis was compromised by the lack of comparable information, on each indicator, for each country. In the in-depth screening, we were able to analyze the countries, however there was not data available for all the indicators. Also, in some cases, the data available was not comparable since the available data was for different years. Moreover, in same indicators we only uncovered data from ten years ago which does not transmit an

accurate reality on the market. Especially, frontier markets which are fast changing markets. As we concluded, in the state of the art, this are characteristics of frontier market analysis. All these limitations compromise the results obtained. Nevertheless, the focus of this master dissertation was not compromised by the lack of accuracy and comparability of frontier markets data.

An operational limitation was imposed to the chosen model because of the inability to perform the last step of three-stage model. However, this is a known limitation identified by researchers since the last step requires first-hand information. Despite these limitations, the selected model presents a well-structure framework for the analysis of this case, since this framework can be easily customized, which is ideal for this study. Even though, the last step was not be performed our analysis provides a relevant contribution of frontier market selection models.

In this master dissertation, we were also focused in analyzing the information available and asses if frontier markets have publicly available information that allows them to be studied. Before the preliminary analysis only Gabon was eliminated from the sample due to lack of public available data. All the remaining three countries were analyzed. As we previously mentioned, a recurrent problem in both emergent and frontier markets is the lack of readily available statistical data, since these markets have, the previously mentioned, “institutional voids”. Typically, frontier markets do not have an infrastructure developed to collect statistical data. However, our analysis successfully showed that frontier markets can be analyzed since the necessary information is now available.

6. Future Work

In this section we propose some future work directions that our research rouse in the field of international market selection as well as some shortcomings we identified in the field of internationalization.

The research conducted in this master dissertation open international market selection to a new area that was previously perceived unfeasible to be studied in this field of international market selection. The research on frontier markets selection models needs to be complemented by other case studies that explore different types of frontier market. This type of research could be focused on analyzing the applicability of the critical market selection factor, identified in this master dissertation, in other types of frontier markets. Additionally, studying other types of entry mode in frontier market analysis would complement our factors' study by researching different indicators that would operationalize them.

We identified that there is an overall lack of studies analyzing the suitability of the international market selection models in real-life context. This is translated in most model's inability to be used in case studies, for example, by lacking a selection process. This research preposition uncovers another absence in the literature, a lack of specific data on decision markets' factors selection criteria.

Lastly, we identified the need for research on how differences in decision makers is translated in their choice of selection criteria. Researching how the decision makers experiences and context affects her factors selection, e.g. comparing decision makers in MNE trading companies and SME trading companies. Additionally, in the literature most of the models are developed using American companies as the study unit. Therefore, most of the models take into consideration these companies selection preferences. Consequently, this creates an absence of diversity of decision markets' factors selection criteria in the models in international market selection literature. Thus, there is a need of research that provides a basis for a guiding line in terms of most import selection criteria in international market selection, for different industries, companies sizes, nationalities, amongst other factors.

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Appendix A

Table A1 - Factors and indicators used in the preliminary screening phase, identified in the literature

Factor Group	Indicators	Sources
Demographic/ Physical Environment	• Population size, growth and density allow us to understand the country's market dimension. It should be analyzed the present and expected future value to comprehend the markets expected long-term growth. • Urban/rural distribution and urbanization rate are indicative of countries economic development. • Climate and weather are key aspects of people's consumption patterns. • Country's dimension impacts physical distribution and communications network.	Samli (1977), Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Craig and Douglas (2005) and Johansson (2009).

Economic Environment	<u>Country's market analysis</u>
	• Overall level of development can be measured by the economic sector division between primary, secondary and tertiary.
	• Economy growth is frequently measured by Gross National Product (GNP) growth which translates market potential. It should be analyzed the present GNP and expected future GNP growth.
	• Economic/financial risk can be reflected by exchange rate volatility which is an important indicator of underlying economic or political problems.
	• International Trade:
	  ○ Role of foreign trade in the economy will reflect which products the country is import dependent and which it is not.
	  ○ Source/destination of import and exports will reflect which countries have a strong link to the country.
	<u>Consumers analysis</u>
	• Buying power: average income per capita of middle-class.
		Lindberg (1982), Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Craig and Douglas (2005) and Johansson (2009).

Social/Cultural Environment	• Literacy rate and educational level reflects the type of economic development of a country, moreover, influences marketing since written advertisement will not be successful. • The size of middle class indirectly translates the distribution of population for social classes. • Culture distance (analysis the similarity, to the home market, in language, religion and other factors). It directly impacts product acceptance, product design, amongst other factors.	Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Craig and Douglas (2005) and Johansson (2009).
Political Environment	• The governmental system and political orientation have a major impact on industry's regulation and conduct, but also on the population's social conditions that dictate consumer behavior. • Political risk measurers the political stability, military uprising risk, as well as, terrorist risk. • Legal risk measures a government's attitude towards foreign investment, particularly FDI.	Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Craig and Douglas (2005) and Johansson (2009).

Table A2 - Factor and indicators used in the in-depth screening phase, identified in the literature

Factor Group	Indicators	Source
Consumer/ User profile	<u>Consumer characterization</u> • Basic data like gender, age, social class, educational level. • Indicators of income and expenditure. • Consumption patterns should be considered, like quantity purchase and frequency as well as place of purchase. <u>Product characteristics</u> • Product preferences. • Packaged type and size preferences. • Product uses.	Cavusgil (1985), Root (1994) and Johansson (2009).

Table A2 (continued)

Factor Group	Indicators	Source
Consumer/ User profile	Product penetration • Product exposure and acceptance. • Brand loyalty as well as attitudes toward products of foreign origin will be a possible barrier. Customer needs and desires will uncover new trends in consumers.	Cavusgil (1985), Root (1994) and Johansson (2009).

Market Potential	Current Market Demand
	• Official data on product's demand. If product's consumption is not measured by national statistics then the most citied indicator, in the literature, is apparent consumption calculated by local production plus imports minus export.
	Current Market Size
	• Some general indicator of market size, for example:
	  ○ Population, population per age-groups, number of households.
	  ○ Urbanization rate.
	  ○ Middle-class size and income.
	• Also, must be used industry-specific indicators, like per capita spending on product category.
	Market Growth Rate
	• Some general indicator of market growth rate, for example:
	  ○ Population growth, urbanization growth.
	  ○ Middle-class income growth.
	• Industry-specific indicators, for example
	  ○ Growth amongst existing buyers, growth in penetration and growth rate of new buyers.
	  ○ Relation with substitute products allows to understand the influence of other products in a market's demand.
	Market Potential
	• Future market size can be calculated by current stage of product life cycle, potential saturation level and growth rates forecasted.
	Market Players
	• The level of competition in a market can be calculated by different factors: number of competitors, number of domestic and foreign competitors, domestic companies' market shares and also multinational competitors' market shares.
		Cavusgil (1985), Lindberg (1982), Kumar, Stam, and Joachimsthaler (1994), Root (1994), Craig and Douglas (2005) and Johansson (2009).

Trade Barriers & Regulations	• Preferential trade treaties.
	• Tariff barriers.
	• Non-tariff barriers:
	  ○ Product quotas or import ban.
	  ○ Products local standards.
	  ○ Since documentation and import regulations differs from country to country it must be analyzed.
	  ○ Patents and trademarks.
	  ○ Legal aspects (e.g. taxation, employment, code of laws) must also be considered since they will affect the firms' operation.
		Cavusgil (1985), Root (1994), Kumar, Stam, and Joachimsthaler (1994), Craig and Douglas (2005) and Johansson (2009).

Table A3 - Factors and indicators used in the final decision phase, identified in the literature

Factor Group	Indicators	Sources
Sales Forecasting	• Size and concentration of customer segments; • Demand projections; • Number and size of distributors/wholesalers; • Local distributors'/wholesalers' expectations; • Final price levels.	Cavusgil (1985), Root (1994), Kumar, Stam, and Joachimsthaler (1994), Craig and Douglas (2005) and Johansson (2009)**.**

Table A3 (continued)

Factor Group	Indicators	Sources
Landed Cost	• International freight and insurance; • Port and customs cost; • Tariffs, duties and other additional local costs.	Cavusgil (1985).
Costs of Internal Distribution	• Value added tax; • Distribution costs; • Inventory costs.	Cavusgil (1985) and Craig and Douglas (2005).
Other Factors	• Product adaptation costs; • Competitive strengths and weaknesses; • Credit practices; • Current and projected exchange rates.	Cavusgil (1985), Kumar, Stam, and Joachimsthaler (1994), Craig and Douglas (2005) and Johansson (2009).

Table A4 - Additional factors and indicators for the preliminary screening phase for frontier markets' analysis

Factor Group	Indicators
Demographic/ Physical Environment	• Urban population size, growth and density allow us to understand the country's market dimension. It should be analyzed the present and expected future value to comprehend the markets expected long-term growth.
Economic Environment	Country's market analysis • Economic/financial risk can be reflected by exchange rate volatility which is an important indicator of underlying economic or political problems, as well as, inflation rate, currency type, currency availability and restrictions. Consumers analysis • Buying power (median income per capita).
Social/Cultural Environment	• The size and existence of middle class indirectly translates the distribution of population for social classes.
Infrastructural Environment	Physical Infrastructure • Basic infrastructure examines the reach and availability of the electric system, piped water system and sewage system. • Physical transportation structure analyzes the sophistication of the distribution network and operators in the industry, researching the quality of roads and the percentage of paved roads or the third-party logistics industry in the country. • Retail distribution network examines the commercial infrastructure, the number of retail stores and the street markets importance in the country. • Communication infrastructure examines the existence of mobile telephones, television and computers per capita, as well as internet coverage in the country. Institutional infrastructures Analysis of country's product market, labor market and capital market.

Table A5 - Additional factors and indicators for the in-depth screening phase for frontier markets' analysis

Factor Group	Indicators

Market Potential	Current Market Size
	• Some general indicator of market size:
	  ○ Urban population, population per age-groups, number of urban households.
	  ○ Size of middle-class.
	  ○ Income distribution and median income, using GNI per capita, PPP.
	Market Growth Rate
	• Some general indicator of market growth rate:
	  ○ Urban population growth, middle-class growth.
	  ○ Middle-class income growth.

Industry Infrastructural Environment	• Depending on the industry each company will analyze different factors and indicators of Physical Infrastructure and Institutional infrastructures

Appendix B

Table B1 - Preliminary screening framework Market Potential Index – 2018

Factor Group	Weight	Indicators
Market Size	25,0%	• Electricity Consumption (2015) [1]; • Urban Population (2016) [1].
Market Growth Rate	12,5%	• Compound Annual Growth Rate (CAGR) of Primary Energy Use (2010-2015) [2]; • CAGR of GDP (constant 2005 US$) (2011-2016) [1].
Market Intensity	15,0%	• Gross National Income (GNI) per Capita Estimates Using PPP (2016) [1]; • Private Consumption as a percentage of GDP (2016) [1].
Market Consumption Capacity	12,5%	• Consumer Expenditure (2017) [4]; • Income Share of Middle-Class (2015) [1]; • Household Annual Disposable Income of Middle-Class (2017) [4].
Commercial Infrastructure	10,0%	• Available Airline Seats (2017) [11]; • Cellular Mobile Subscribers (2016) [3]; • Households with Internet Access (2016) [3&4]; • Logistics Performance Index (2016) [12]; • Paved Road Density (2017) [4]; • Population per Retail Outlet (2017) [4].
Economic Freedom	7,5%	• Economic Freedom Index (2018) [5]; • Political Freedom Index (2018) [6].
Market Receptivity	10,0%	• Per Capita Imports from US (2017) [7]; • Trade as a Percentage of GDP (2016) [1].
Country Risk	7,5%	• Business Risk Rating (2017) [8]; • Country Risk Rating (2018) [9]; • Political Risk Rating (2018) [10].

Sources:

[1] World Bank, *World Development Indicators*
[2] U.S. Energy Information Administration, *International Energy Annual*
[3] International Telecommunication Union, *ICT Indicators*
[4] Euromonitor International, *Global Market Information Database*
[5] Heritage Foundation, *The Index of Economic Freedom*
[6] Freedom House, *Survey of Freedom in the World*
[7] U.S. Census Bureau Foreign Trade Division, *Country Trade Data*
[8] Swiss Export Risk Insurance, *Country Risk Survey*
[9] Coface, *Country Risk Survey*
[10] Credendo, *Country Risk Survey*
[11] World Economic Forum, *Global Enabling Trade Report*
[12] World Bank, *Logistics Performance Index*

Note: Adapted from GlobalEDGE (2018a)

Table B2 - Cavusgil's (1985) in-depth screening framework

Factor Group	Indicators
Market Access	• Limitations on trade: tariff levels, quotas; • Documentation and import regulations; • Local standards, practices, and other nontariff barriers; • Preferential treaties; • Legal considerations: investment, taxation, repatriation, employment, code of laws.
Product Potential	• Indicators of population and income levels; • Local production, imports, consumption; • Industry-specific key indicators of demand; • Consumption patterns; • Exposure to and acceptance of product; • Customer needs and desires; • Availability of linking products; • Attitudes toward products of foreign origin; • Competitive offerings.

Table B2 (continued)

Factor Group	Indicators
Local Distribution and Production	• Availability of intermediaries; • Regional and local transportation facilities; • Availability of manpower; • Conditions for local manufacture.

Note: Adapted from Cavusgil (1985)

Table B3 - In-depth screening framework for case study analysis

Factor Group	Indicators

Product's Trade Balance	• Indicator of Refined Palm Oil Import Need - Quantity imported of refined palm oil.
	• Indicators of Imports' Dependency.
	  o Import dependency (imported palm oil share in domestic consumption).
	  o Export capacity (exported palm oil share in total palm oil produced).
	  o Self-sufficiency ration (national palm oil production, minus exports, share in domestic consumption).
	• Indicator of evolution of country's trade balance (annual difference between the quantity imported and the quantity exported)

Consumer/ User profile	<u>Consumer characterization</u>
	• Indicator of palm oil cooking use in the country, by region.
	• Indicator of palm oil cooking use, by income class.
	• Indicator of food expenditure, by income class.
	<u>Product characteristics</u>
	• Consumer palm oil preferences (for crude palm oil or refined palm oil).
	• Refined palm oil uses (traditional dishes, frying, stews, or for all uses).
	• Consumption patterns:
	  o Palm oil or vegetable oils weekly consumption (in national average household size).
	  o Palm oil or vegetable oils purchase frequency (weekly, monthly).
	• Package preferences:
	  o Consumer palm oil or vegetable oils packaged size preferences.
	  o Retailer palm oil or vegetable oil packaged size preferences.
	• Palm oil purchasing preferences:
	  o Palm oil, vegetable oils and food products place of purchase (formal or informal retail).
	<u>Product penetration</u>
	• Consumers brand loyalty.
	• Consumers attitudes toward products of foreign origin.
	• Customers' needs and desires will uncover new trends.

Market Potential	<u>Current Market Demand</u>
	• Indicator of food consumption demand (share of palm oil domestic consumption for food use in total palm oil domestic consumption).
	<u>Current Market Size</u>
	• Some general indicator of market size:
	  o Urban population (in percentage of total population).
	  o Size of urban households (in number of households).
	  o Household median Income (GNI per household, PPP).
	  o Size of middle-class (in percentage of total population).
	  o Size of bottom of the pyramid (in percentage of total population).
	• Industry-specific indicators:
	  o Average household expenditure on palm oil, vegetable oils, and food category.
	  o Urban food expenditure (in percentage of national food expenditure).
	Rural food expenditure (in percentage of national food expenditure).
	<u>Market Growth Rate</u>
	• Some general indicator of market growth rate:
	  o Population growth (population growth between 2008-2018 in percentage).
	  o Urban population growth (urban population growth between 2008-2018 in percentage of total population).

Table B3 (continued)

Factor Group	Justification
Market Potential	○ Income per capita growth (income per capita growth between 2008-2018 in percentage). ○ Population under 24-year-old (in percentage of total population in 2018). ○ Average fertility rate (in number of children per woman in 2018). • Industry-specific indicators: ○ Palm oil or vegetable oil income elasticity. ○ Analysis of household evolution in consumption of palm oil and vegetable oil. ○ Growth amongst existing buyers, growth in penetration and growth rate of new buyers. Consumption of substitute products and evolution in this consumption.
Local Production & Distribution	<u>National Production System</u> • Current national product production. • Analysis of evolution in national product production. • Analysis of product's production systems. • Analysis of product's supply chain. <u>Market Player Analysis</u> • Analysis of players in product production systems: farmers, millers, etc. • Analysis of product supply chain: brokers, distributers, wholesalers, retailers, importers, etc. • Analysis of clients: formal and informal markets. • Analysis of competitors. <u>Infrastructure Analysis</u> • Distribution infrastructure: road network, rail network, seaport network ○ Main mode of transportation for passengers and cargo. ○ Network reach, distribution and density. ○ Current network status, maintenance and problems.
Trade Barriers & Regulations	<u>Country Effect</u> • Portugal's 2018 Import Penetration (share of 2018 import penetration of portuguese imports in the country's total imports). • Portugal's 2018 raking as a supplier (performance of 2018 Portuguese imports in country's overall imports). • Portuguese imports growth between 2014-2018 (evolution of portuguese import penetration) • Palm Oil Imported from Portugal in 2018 (share of 2018 Portuguese palm oil import penetration in the country's total palm oil imports). • Portuguese palm oil imports' growth between 2014-2018 (Evolution of portuguese palm oil import penetration in the country's total palm oil imports). <u>Country's Trade Relation</u> • Country's trade block and trade organization membership. • Preferential trade treaties with Portugal or the European Union. • System guiding Portugal's imports tariff system to the country. <u>Product's tariff barriers</u> • Import tariff on portuguese refined palm oil imports. • Valued Added Tax. • Additional levies. <u>Non-tariff barriers</u> • Product's quotas, import ban and local standards analysis.

Appendix C

The interview was held on the September sixth, 2019 and had a duration of one hour and a half.

Interview Protocol: In-depth Screening

The following questions are related to the selection criteria of the second stage of the model, the in-depth screening phase. This stage is focused on the analysis of the country's market conditions. Therefore, it needs to be taken into consideration the countries sample and the product characteristics.

1) Ordinate the factors, by descendant order of importance, for the selection process in this phase.

Table C1 - Factors used in the selection process in the in-depth screening phase

Factors	Example of indicators measured
Market's Access	• Product's trade barriers in the country (e.g. tariffs, quotas, amongst others). • Country's trade barriers (e.g. importing licenses).
National Market	• Size of the consume base in the country
Trade Balance	• Product's trade pattern in the country (e.g. product deficit or surplus).
B2C Consumer	• Consumer characteristics (e.g. age, gender, needs, preferences).
B2B Consumer	• Client characteristics (e.g. retail sophistication, structure of informal market).
Infrastructure Characteristics	• Basic infrastructure. • Distribution infrastructures. • Commercial infrastructure. • Communication infrastructure.
National Industry	• National production of the product (e.g. is the product produced in the country) • National production system (e.g. type of production, sophistication level) • Market players (e.g. producers, distributers, retailers, importers, amongst others)

2) Why did you choose this order of preference?

3) Analyze the list of indicators, in the developed framework, and indicate which are more important in the selection process, and why?
   a. From the previous selected indicators, ordinate them by descendant order of importance, for the selection process in this phase.
   b. Are there any aspects of the B2B or B2C consumers that can be an eliminatory aspect?
   c. Are there any aspects of infrastructural factor that can be an eliminatory aspect?

4) Are there any other factors/indicators which you consider important in this stage of the analysis?

Appendix D

- Indicator of Imports' Dependency

Table D1 presents data on palm oil produced, exported, imported and consumed in each country in 2018.

Table D1 - Palm oil produced, exported, imported and consumed in each country in 2018

Countries	Palm Oil Produced (in thousand tons)	Palm Oil Exported (in thousand tons)	Palm Oil Imported (in thousand tons)	Palm Oil Consumed (in thousand tons)
Ghana	375	160	320	535
Nigeria	1 015	18	330	1 340

Source: United States Department of Agriculture (2019)

According to table D1, we conclude that Ghana's 2018 palm oil imports accounted for 60% of total domestic consumption. The exported quantity accounted for 43% produced quantity. In terms of self-sufficiency ration the quantity produced in Ghana accounts for 40% of national consumption. Instead in Nigeria, exports played an insignificant role accounting for only 2% of the quantity produced in the country. Since the domestic consumption exceeded the quantity produced, the country in 2018 imported 25% of the consumed quantity. In terms of self-sufficiency ration the quantity produced in Nigeria accounts for 74% of national consumption.

- Indicator of Product's Trade Deficit

In order to understand if each country has been consistently import dependent, we analyzed the annual difference between the quantity imported and the quantity exported. If the value obtained is positive that means that the country imports more than exports, therefore it is import dependent. Table D2 and table D3 present the palm quantity imported and exported, respectively.

Table D2 - Palm oil quantity imported annually per country, between 2014 and 2018

Countries	Annual Palm Oil Quantity Imported (in thousand tons)				
	2014	2015	2016	2017	2018
Ghana	292	278	320	320	320
Nigeria	506	263	298	302	330

Source: United States Department of Agriculture (2019)

Table D3 - Palm oil quantity exported annually per country, between 2014 and 2018

Countries	Annual Palm Oil Quantity Exported (in thousand tons)				
	2014	2015	2016	2017	2018
Ghana	138	150	155	160	160
Nigeria	18	18	18	18	18

Source: United States Department of Agriculture (2019)

- Indicator of Urban Household Size

Ghana's population in 2016 was 28 481 946 inhabitants (World Bank 2019a). The last report found on average household size in the country reported to 2014. Consequently in this analysis, we used the value reported for 2014. Ghana Statistical Service (2014) reported that the average household size in the country was 4,0 persons. Therefore, we can conclude that Ghana had 7 120 487 households in 2016. Ghana in 2016 had 55% of its population in urban areas (World Bank 2019a). Therefore, the urban household size, from the 2016 total household size, was 3 916 268 households.

Nigeria's population in 2009 was 154 324 933 inhabitants (World Bank 2019a). We used average household size in the country reported in 2009. The Nigerian National Bureau of Statistics (2010) reported that the average household size in 2009 was 4,5 persons. Therefore, we can conclude that Nigeria had 34 294 430 households in 2009. Nigeria in 2009 had 43% of its population in urban areas (World Bank 2019a). Therefore the urban household size, from the 2009 total household size, was 14 746 605 households.

- Indicator of Income Distribution

The income unit used was GNI per capita. The values are expressed in international dollars with 2011 purchasing power parity. We used the definition of African Development Bank, for African markets based on the rule presented in section 3.4.2, where the middle-class income calculation is based on the consumption following between 0,75 and 1,25 times of country's median per capita income.

Ghana's last income distribution levels report to 2016 (World Bank 2019a). In table D4 is presented Ghana's income distribution levels in 2016 per quintile.

Table D4 - Ghana's income distribution levels in 2016

	Income Quintiles (in percentage)				
	lowest 20	second 20	third 20	fourth 20	highest 20
Income distribution (in percentage)	4,7	9,6	14,8	22,3	48,6
Population/quantile (in million inhabitants)	5,7	5,7	5,7	5,7	5,7
GNI[1]/quantile (in billion dollars)[2]	5,0	10,3	15,8	23,6	52,0
GNI[1]/quantile/capita (in dollars)[2]	882,6	1 802,8	2 779,4	4 187,8	9 126,8
GNI[1]/capita/day (in dollars)[2]	**2,42**	**4,94**	**7,61**	**11,5**	**25,0**
Note:					
[1] GNI, PPP			Population (2016) = 28,5 million inhabitants		
[2] Constant 2011 international dollars			GNI, PPP (2016) = 107,0 billion Constant 2011 international dollars		

Source: World Bank (2019a)

Nigeria's last income distribution levels report to 2009 (World Bank 2019a). In table D5 is presented Nigeria's income distribution levels in 2009 per quintile.

Table D5 - Nigeria's income distribution levels in 2009

	Income Quintiles (in percentage)				
	lowest 20	second 20	third 20	fourth 20	highest 20
Income distribution (in percentage)	5,4	9,7	14,4	21,6	49,0
Population/quantile (million inhabitants)	30,9	30,9	30,9	30,9	30,9
GNI[1]/quantile (billion dollars)[2]	38,1	68,5	101,6	152,4	345,8
GNI[1]/quantile/capita (dollars)[2]	1 234,8	2 218,0	3 292,7	4 939,0	11 204,2
GNI[1]/capita/day (dollars)[2]	**3,38**	**6,08**	**9,02**	**13,53**	**30,70**
Note:					
[1] GNI, PPP			Population (2009) = 154,3 million inhabitants		
[2] Constant 2011 international dollars			GNI, PPP (2009) = 705,8 billion constant 2011 international dollars		

Source: World Bank (2019a)

In Ghana the median daily income in 2016 was 7,61 dollars. In 2016, 40% of the population was in the bottom of the pyramid class, because they had a daily income inferior to 0,75 times the median. In the middle-class as a hole — including floating class, lower-middle class and upper class — there were 5,7 million inhabitants, corresponding to 20% of the population. The upper class corresponds to the remaining 40% of the population.

In Nigeria the median daily income in 2009 was 9,02 dollars. In 2009, 40% of the population was in the bottom of the pyramid class, because they had a daily income inferior to 0,75 times the median. In the middle-class as a hole — including floating class, lower-middle class and upper class — there were 30,9 million inhabitants, corresponding to 20% of the population. The upper class corresponds to the remaining 40% of the population.

- Indicator of Median Income per Household

From the previous data we can conclude that in 2016 the median income per capita in Ghana was 2 779 dollars. In order to calculate the household income, we used the average household size of 4,0 persons for calculation, assuming that all member of the household are at the working age. We calculated the 2016 median household income in Ghana was 11 116 dollars.

From the previous data we can conclude that in 2009 the median income per capita in Nigeria was 3 293 dollars. In order to calculate the household income, we used the average household size of 4,5 persons for the calculation, assuming that all member of the household are at the working age. We calculated the 2009 median household income in Nigeria was 14 816 dollars.

In order to comprehend the role of palm oil in the total vegetable oil consumption in each country we present in table D6 the types of vegetable oil consumed in Ghana and Nigeria in 2013, and their consumption as faction of the total vegetable consumption in that year.

- Indicator of Palm Oil Substitutes

In order to comprehend the role of palm oil in the total vegetable oil consumption in each country we present in table D6 the types of vegetable oil consumed in Ghana and Nigeria in 2013, and their consumption as faction of the total vegetable consumption in that year.

Table D6 - Ghana's and Nigeria's vegetable oils consumption in 2013

Vegetable Oils	Ghana (in percentage)	Nigeria (in percentage)
Coconut Oil	4,2	0,6
Cottonseed Oil	0,0	0,7
Groundnut Oil	28,6	15,6
Oilcrops Oil, Other	16,6	8,6
Olive Oil	0,3	0,1
Palm Oil	42,4	48,1
Rape and Mustard Oil	0,1	0,0
Sesameseed Oil	0,0	0,1
Soybean Oil	1,4	0,4
Sunflowerseed Oil	0,7	0,0

Source: Food and Agriculture Organization of the United Nations (2019)

Note: According to Food and Agriculture Organization of the United Nations (2012) in this category are included vegetable oil from: karite nuts, castor beans, rapeseed, tung nuts, safflower seed, jojoba seed, poppy seed, melon seed, tallowtree seeds, kapok fruit, linseed and hempseed.

We can concluded that in both Ghana and Nigeria palm oil is the most consumed vegetable oil. In Ghana palm oil represented 42,4% of the vegetable oil consumption in the country in 2013. In Nigeria palm oil represented 48,1% of the vegetable oil consumption in the country in 2013.

- Indicator of Palm Oil Substitutes

As table D6 showed, in Ghana the top five most consumed oils, after palm oil, are groundnut oil, “oilcrops oil, other”, coconut oil, soybean oil and sunflower oil. In that year, the consumption of coconut oil, olive oil, rape and mustard oil and sunflower seed oil did not amount to 1 kilogram. Moreover, the annual consumption of olive oil and rape and mustard oil did not go beyond to 20 grams and 10 grams, respectively. The category “oilcrops oil, other” accounted for more than 1 kilogram in 2013 (Food and Agriculture Organization of the United Nations 2019). According to table D6 in Nigeria, the top five most consumed oils, after palm oil, are groundnut oil, “oilcrops oil, other”, cottonseed oil, coconut oil and soybean oil. The annual consumption of coconut oil, cottonseed oil, olive oil, sesame seed oil and soybean oil did not amount to 1 kilogram. Moreover, the annual consumption of olive oil and sesame seed oil did not go beyond to 10 grams. The category “oilcrops oil, other” accounted for about 1 kilogram in 2018 (Food and Agriculture Organization of the United Nations 2019).

For both countries the second most consumed vegetable oil was groundnut. Palm oil and groundnut oil together accounted for 71% of vegetable oil consumption in Ghana and 64% in Nigeria. Therefore, we decided on an analysis of the next most consumed vegetable oil in each country.

- Indicator of Palm Oil Production Regions

In both Ghana and Nigeria palm oil production and processing is confined to specific states. In Ghana the palm cultivation occurs in the western, central and eastern regions of the country (Ofosu-Budu and Sarpong 2013). In Nigeria palm oil production and processing is mostly concentrated in the central and south of the country (Gourichon 2013).

- Indicator of Palm Oil Tree Area Planted

In 2008, Ghana reported to have an estimated 330 000 hectares of palm oil tree planted in the country (Ofosu-Budu and Sarpong 2013). Nigeria reported, in 2004, 2 514 090 hectares of palm oil tree planted in the country (Ayodele 2010).

- Indicators of Palm Tree Production System Analysis

The typical palm oil tree production system can be divided into estate plantations and smallholders. There are many differences between these two systems, but generally it is used the farm size as the primary differentiation factor. However, there is not a standard definition in the literature of smallholders. On section 3.3 was introduced the definition used by the Roundtable on Sustainable Palm Oil which characterized them, amongst other attributes, by a palm oil tree area below 50 hectares. However, Sub-Saharan African farmers work on lands with a much smaller size. The Ghanaian government adapted the definition from the Roundtable on Sustainable Palm Oil and established the smallholders farmers to a maximum of 40 hectares (Proforest 2014).

In Ghana the production systems are dived in estate plantation, which have more than 40 hectares, and smallholders which cultivate less than 40 hectares. According to Ofosu-Budu and Sarpong (2013) In Ghana, the smallholder farmers can be divide in:

- Nucleus-smallholder - which produce in the estate plantation;
- Out grower - which produce outside the estate farm. However, they have a contract with the estate, who they sell their production to and received agricultural inputs in return;
- Independent smallholder farmers - which are self-organized, self-managed and self-financed.

The yield obtained varies largely according to the farming system. The large estate plantation present the highest yield of 10 to 13 tons per hectare, smallholders and out-growers is between 7 and 10 tons per hectare, and the smaller type of smallholders, the small-scale farmer — which works on less than 10 hectares — can yield 3 tons per hectare (Ofosu-Budu and Sarpong 2013).

In Nigeria the production system is derived in: smallholders which typically have between 1 and 10 hectares, and estates which have more than 10 hectares (Ayodele 2010). According to Ayodele (2010) and Gourichon (2013) in Nigeria, the smallholder farmers can be divide in:

- Wild groves farmers - which rent wild-groves areas;
- Small scale farmers - which farm their one land as means of subsistence and produce palm oil informally as a mixed cropping system.

In Nigeria most of the palm tree hectarage is wild groves. This production system presents the lowest yield out of all production system, with only 1,5 tons per hectare. The small-scale farmer, can yield 3 tons per hectare and the large estates with more than 100 hectare can yield 5 tons per hectare (Gourichon 2013). Similar to Ghana, Nigeria estates do not achieve a competitive yield in its farms.

Typically in both Ghana and Nigeria small estates are owned by individuals or cooperatives. The medium estates belong to corporations or to the state. The large states are integrated into companies that have a stake in all steps of palm oil value chain (Gourichon 2013).

- Indicators of Palm Processing System Analysis

The production of palm oil occurs in the mills, which receive the palm fresh fruit brunches and processed it in order to obtain palm oil. The production of palm oil can be divided in primary processing, where crude palm oil is obtained, and secondary, where refined palm oil is obtained (Carrere 2013).

In Ghana there are three types of production systems for primary processing: small/traditional processing, medium processing and large processing. The traditional processers receive smallholders' production, and the processing of the brunches is still carried out manually by women at the village level (Carrere 2013). Some small processers may use semi-mechanized procedures. Both traditional and small processors produce technical palm oil (Angelucci 2013). The medium processers receive private smallholders' production, since out growers programs are too expensive (Fold and Whitfield 2012). Lastly, the large-scale processors receive the production from large scale estates and from their outgrowers (Angelucci 2013). In Ghana both medium and large producers produce special palm oil (Ofosu-Budu and Sarpong 2013). However, medium producers have lower extraction rate than large processers (Fold and Whitfield 2012). In Ghana the large processors are not self-sufficient. They buy 60% of their raw material abroad or from smallholders outside their estates (Ofosu-Budu and Sarpong 2013). Currently, they are focusing on acquiring land as well as improving their estates yielding, in order to reach a 50% sufficiency (Fold and Whitfield 2012).

In Nigeria there are three types of production systems for primary processing: small/traditional processing, medium processing and large processing. The traditional processing receives smallholders' production and produces only traditional technical palm oil. The traditional processing is typically done manually by traditional methods resulting in a low oil extraction of 25%.

The medium processers receive small and medium scale estates production. Unlike the previous type this is performed mechanically, however still only produces technical palm oil. Lastly, the large-scale processers receive the production from large scale estates and their out growers. This type offers the height yields of 75% and produces special palm oil (Gourichon 2013). In Nigeria the national production of special palm oil can only supply 50% of the refinery's needs, therefore the remaining special palm oil is imported (Gourichon 2013).

The large-scale processes, because of their production capacity, are able to sell directly to the domestic and international markets. However, the smaller processers have to sell their production to intermediaries, which will sell it to the local market or exported it (Dada 2007).

For both Ghana and Nigeria, we were able to gather information and conclude that the majority of palm oil supply chain is characterized by small scale business. In Nigeria the Foundation for Partnership Initiatives in the Niger Delta (2012) concluded "smallholder farmers supplying small scale mills with individuals providing the distribution linkages and small ancillary businesses supporting the value chain as fabricators and input suppliers". In Ghana according to Ofosu-Budu and Sarpong (2013) the household consumer value chain is based on small scale producers who sell to small scale mills or households doing manual processing.

- Indicators of Palm Supply Chain Analysis

Brokers are intermediaries, at the national level, between the producers and the buyers. In some cases, the intermediaries are also exporters (Dada 2007). According to Gourichon (2013) in Nigeria there four types of traders in the country's value chain:

- Community palm oil dealer association - they bulk-buy palm oil from plantations, on a regulator, in plastic jerry cans (20 litters), drums (200 litters) or tankers.
- Peddlers - act as an agent. They are intermediaries between the palm oil producers — farmers or millers — and the oil dealers. They are organized in unions or association, this way creates a barrier between producers and buyers.
- Oil merchants – buy palm oil from traders and middlemen, which they sell on their own distribution stores. Typically, they also benefit from a wide network of retailers, wholesalers and industrial markets.
- Speculators - bulk-buy palm oil during the high supply season and store it, in order to sell it, during the down period, to major dealers. This can be done, for example, by farmers.

For Ghana was not uncovered detailed information on the type of brokers network that operates in the market. It was only gathered information on the presence of brokers in the survey Sarku and Appiah (2017) in Kwaebibirem district in eastern Ghana. In this survey was also described middleman which create a barrier between producers and buyers, like oil merchants in Nigeria. In Ghana they "where bearers of information on price, taste and preferences of palm oil from consumers to processors" as Sarku and Appiah (2017) explained.

For Ghana was not uncovered detailed information on the type of wholesaler network that operates in the market. According to Gourichon (2013) in Nigeria palm oil retail can be done in local street market, on the roadside, or by wholesalers. The retail points are governed by trading associations, which do not allow the free entry into the business. Even the distributors do not have free entry, having to pay to the trading association to enter.

No information was uncovered on the number of palm oil wholesales in Nigeria. However, according to the Foundation for Partnership Initiatives in the Niger Delta (2012) survey in Imo state, traders and wholesalers, with their allies, account for half of the state's value chain. They supply both rural and urban markets and also dictate the price of crude palm oil which is also influenced by the demand-supply gap.

- Indicators of Palm oil Players Analysis

Currently, the main players in Ghana's palm oil production are: Presco Plc, SIFCA group and Wilmar in a joint venture, Norpalm AS and PZ Cussons in a joint venture and SOCFIN group.

In 1995 Presco group acquired Ghana Oil Palm Development Co. from the Ghanaian government (Carrere 2013). The company acquired the Kwae and Okumaning estates in the eastern region. All estates have a combined palm tree area of 21 000 hectares. The company has a fully integrated supply chain owning also an oil mill and a refinery. The company produces for the Ghanaian market their Kings band of palm olein in jerrycan (PRESCO 2019a). The Presco group also has palm oil operation in Nigeria, Gabon, Côte d'Ivoire (PRESCO 2019c).

The Benso Oil Palm Plantation Limited was purchased by Unilever, however in the 2000s was sold to a joint venture between Singapore-based Wilmar and SIFCA group (Carrere 2013). The Benso Oil Palm Plantation is located in west region and has 6 157 hectares of palm oil plantations. Besides the estate Wilmar also owns a mill, a refinery, and a factory. The refinery opened in 2013 and it is located in Tema port. The refinery distributes its production by other countries in the region (Bax 2013). Also, the Ghanaian produces cannot supply more than 30% of the refinery capacity, importing the remaining from Ivory Coast (Appiah 2018). In this plant they also produce they Mamador's brand vegetable oil, Devon King's brand palm oil and other food products.

Unilever and the Ghanaian government are the main shareholders of Twifo Oil Palm Plantation Limited. The estate is located in Mampong area in central region. This is one of the major producer of palm oil in Ghana (Carrere 2013). However, unlike the previous players they have a mill and no refinery. They have a total of 9 447 hectares distributed between nucleus smallholder, out grower programs and independent smallholders (Twifo Oil Palm Plantation Limited 2019).

In the 2000s the Norwegian Palm Ghana Limited bought the estate Norpalm Plantation, situated in the west region. Currently, it is a joint venture between Norpalm AS and PZ Cussons. It company owns 4 500 hetactes of palm oil tree and a mill, however no refinery has been built since they only produce technical palm oil (Norpalm Ghana 2012).

In 1990 the SOCFIN group bought a company founded by the African Delevopment Bank, which had an estate in Daboase District, where was approved the development 6 000 hectares of palm oil trees. In 2019, will be concluded the construction of an oil mill in the same district (SOCFIN 2019b).

Currently, the main players in Nigeria's palm oil production are: Presco Plc, SOCFIN group, Wilmar and PZ Cussons and SIFCA Group. The two largest producers in Nigeria are Okomu and Presco. According to PricewaterhouseCoopers (2019) they hold a "sizeable market share, in terms of value —due to their combined capacity — compared to small-scale farmers".

During the 2000s Presco acquired Risonpalm Ltd. from the Nigerian government (Carrere 2013). Buying consequently two estates, Obaretin estate and Ologbo estate, in Edo state. Later Presco acquired Cowan estate, in Delta state, from Unilever. In recent years it has also acquired a fourth estate in Edo state, Sakponba estate (PRESCO 2019b). All estates have a combined palm tree area of 44 800 hectares. The company has a fully integrated supply chain owning a mill and a refinery (PRESCO 2019c). Presco is Nigeria's biggest palm oil producer (Okojie 2019). The company produces for the, Nigerian market their Cuisin'Or band of palm olein in jerrycan (PRESCO 2019a). The Presco group also has palm oil operation in Ghana, Gabon, Côte d'Ivoire (PRESCO 2019c).

The Okomu Oil Palm Company Plc was privatized in 1990. At the time the company owned an estate and a mill. It was acquired by Luxemburg-based SOCFIN group (Carrere 2013). Now it has 17 245 hectares of palm oil. The company has wide presence in the African, having palm oil operations in Sierra Leone, Liberia, Ivory Coast, Ghana, Cameroon, Democratic Republic of Congo, São Tome and Principe (Okomu Oil Palm Company 2019). In Nigeria the company has, besides the estate, 3 oil mills but no refinery. The company also claims to be Nigeria's largest crude palm oil producer (SOCFIN 2019a).

In 2012 the PZ Willmar, a joint venture between Wilmar and PZ Cussons, acquired 35 000 hectares in the southern Cross River State (Carrere 2013). In 2018 they opened the largest palm oil refinery in Nigeria, in the Lagos state (PricewaterhouseCoopers 2019). In this plant they also produce they Mamador's brand vegetable oil, Devon King's brand palm oil and other food products (PZ Wilmar 2018).

The SIFCA Group in Nigeria has a 14 000 hectares of palm oil plantation (Carrere 2013). However, it is focused on rubber and not palm oil production. However, in 2010, the SIFCA group opened Africa's largest refinery of palm oil in Ivory Coast (SIFCA 2019).

According to Hollinger and Staatz (2015) in Ghana the main retail chains are Ghanaian Melcom, South African group Shoprite, the Wall-mark owned Massmart. Malcom started in 1989 with a store and now is the biggest player with 41 retail stores and three cash and carry spread all over Ghana. The company has its own independent logistics and warehousing infrastructures (Melcom 2019). In 2007 Shoprite opened its first store, focusing in smaller supermarket stores instead of their preferred hypermarket model. It terms of offer it was more focused on FMCG (Hollinger and Staatz 2015). Currently, they have seven stores mostly in the south of Ghana, the northers store is in the central region. Massmart entered the market in 2007 with the opening of one store. In 2018 it expanded its reach with the opening of three new stores (Trend Type 2018). Now, Massmart has four stores mostly in the south (Walmart 2019a). However, it is planed the opening of a fifth store in the north of Ghana (Trend Type 2018).

According to Business Day (2014) in Nigeria the main retail chains are South African group Shoprite, the Dutch group Spar and the Massmart, owned by Wall-mark. In 2006 Shoprite opened its first store focusing its offer on FMCG (Hollinger and Staatz 2015). Shoprite has the biggest presence having a chain of both hypermarkets and supermarkets that has crossed to the north of Nigeria, totaling 25 stores (Shoprite Nigeria 2019). In 2009 Spar entered the market, by 2010 it had opened its first store (Hollinger and Staatz 2015). Currently, Spar has 16 stores mostly in the south of Nigeria, the northers stores are located in the capital (SPAR Nigeria 2019). Massmart also entered the market alongside Shoprite in

2006, sharing as tenants a shopping center (Hollinger and Staatz 2015). Now, Massmart has five stores under different bands, with stores also in the north of Nigeria (Walmart 2019b).

- Indicators of Railway Network

Ghana's total railway network has an extension of 940 kilometers (Ghana Railway Development Authority of the Ministry of Transport 2013). Unlike the Nigeria's railway network, Ghana's railway is only built in the southern of the country. In Ghana the railway network is in poor condition, characterized by old tracks and inadequate railway terminals and platforms. Moreover, limited available of wagons and locomotives has compromised the railway use. Due to the historical use of the railway system for the transport of colonial commodities, in 2013, 50% of railway wagon fleet was for the transport of bauxite and manganese. In the same period, the country did not had a wagon fleet for the transport of containers (Ghana Railway Development Authority of the Ministry of Transport 2013). In 2013, only 13% of railway network was still operational (Ministry of Railways Development 2018). Therefore, in the same year the Ghanaian government presented a plan developed to rehabilitate the existing rail network, in some section re-built it, and also to expand the existing network with new lines. This plan was dependent of private investment (Ghana Railway Development Authority of the Ministry of Transport 2013). However, this investment was never obtained. (Ministry of Railways Development 2018). By 2017, with a derailment in Accra-Tema line which resulted in the closer of this section of the line, the Ghanaian president created the railways development ministry to begin the 2013 plan (*The Business Times* 2019).

Nigeria's total railway network has an extension of 3 790 kilometers (Japan International Cooperation Agency 2014). Similarity to its road extension, Nigeria has the second most extensive rail network in African, second only to the South Africa's network (Foster and Pushak 2011b). Nigeria's rail network was developed along different region of the country. Providing a widespread link between the north, the center and the south of the country. Since 80% of the country's railway was built during colonial times the rail distribution was a result of the country's colonial commodity supply chain design. For example, the East line was built to supply palm oil for ports to export (Mizuoka and Shimono 2013). In Nigeria, the use of rail system had been declining since 1980s in the use of both cargo and passengers transport (Japan International Cooperation Agency 2014). In Nigeria by 2008 only the railway lines developed after independence, which account for 20% of total railway network, were still operational (Mizuoka and Shimono 2013). The Nigerian government witnessing these problems presented in 2002 a twenty-five-year plan that began in the same year. These phases were developed in short-term, medium-term and long-term goals. The main goal was to rehabilitate existing facilities and construction of new lines. The implemented plan has already presented results which by 2010 had completed the first phase, resulting in an increase of passengers and freight transported. Since then the railway system usage has experienced a higher increased in the transportation of passengers than freight (Japan International Cooperation Agency 2014). In terms of freight the company mainly transports bulk products (Mizuoka and Shimono 2013). Only by 2013 the Nigerian railway company tested for the first time the transportation of containers in their trains (Chrome Group 2013). Currently, it is a standard service, with Inland Container dry ports at Kaduna and Kano, which have been exercising success by the increasing number of containers transported (Anagor-Ewuzie 2019).

- Indicators of Seaport Network

Neither, Tema or Takoradi have an intermodal connection to the railway system. Tema port, in particularly is in urban area, which already suffers from road congestion. The opening of new terminal at Tema port has reduced the port congestion. However, the Ghanaian ports are limited by the berth capacity, which with continuous increase in cargo handled will have to expand. Additionally, the inefficient custom clearance also plays an important role. Delays are caused because of formal or informal customs inspections as well as police inspections. The efficiency of Ghanaian ports is also challenged by the increasing congestion outside the port gates. The lack of efficient intermodal connections and inefficient in hinterland movements has resulted in longer dwell times. Moreover, the continuous increase in cargo handled will aggravate the already congested ports access. (Ghana Railway Development Authority of the Ministry of Transport 2013).

The Nigerian ports have serval inefficient. Lagos port is the only port in Nigeria that presents rail connection. Moreover, it also presents water intermodal connection (Nigerian Port Authority 2019a). The rail connection completed in May 2019 does not reach every terminal, which will still result in road congestion in most terminal in Lagos ports (National Geospatial-Intelligence Agency 2019). However, Nigerian ports still present the longest processing times in all African ports, mainly because of physical examination, which is still the adopted approach instead in electronic scanning. In order to ease the process of transmission of information, between the fourteen port entities that interfere in the shipment of goods and release of goods of good, was developed a software that connected government agencies under one platform, however this is rarely available (Lagos Chamber of Commerce and Industry 2016). The main problem identified in Nigerian ports is corruption. Companies that work with Nigeria ports have experienced “bureaucratic red tape, constant delays, high costs, harassment, and demands for illegal charges”, according to Lagos Chamber of Commerce and Industry (2016). This problem is a consequence of the weak legal framework which regulates the public-private partnership with are responsible for the port’s governance, creating inefficiency and corruption.

- Indicator of Consumer Palm Oil Preferences

In Ghana both Sarku and Appiah (2017) and Angelucci (2013) reported that crude palm oil, also known as red palm oil, is the preference in Ghana. According to Dada (2007) and Gourichon (2013) in Nigeria red palm oil is also the preferred one due to its flavor.

- Indicator of Consumer Palm Oil Uses

In the west African region palm oil is an essential ingredient used in traditional cuisine (Poku 2002). In terms of palm oil cooking uses no information was found for both Ghana and Nigeria.

- Indicator of Consumer Palm Oil Weekly Consumption

According to Ezealaji (2011) a Nigerian household with five peoples — which is the average household size — consumes per week around 2 litres of palm oil. No information was found on weekly household purchase of palm oil quantity for Ghana.

- Indicator of Retailer Palm Oil Packaged Size Preferences

For Nigeria the only reference which identifies palm oil bottle sizes in the Nigerian markets was Gourichon (2013) work which mentions that wholesalers buy palm oil from plantation estates in plastic

20 liters jerry cans and 200 liters drums. In Ghana the same sizes were preferred by brokers. According 57% processors sold in 22,5 liters jerry cans because it was preferred by traders, 29% sold in 62,5 liters jerry and, and only 14% sold in 250 liters drums (Sarku and Appiah 2017).

- Indicator of Consumer Palm Oil Packaged Size Preferences

According to Sarku and Appiah (2017) survey, in eastern Ghana, was reported that palm oil was bottled by distributors in an 1,5 litre bottle to sell to the consumer. In the survey Nondzor, Tawiah, and Michael (2015) in the Ayifua Estate in south Ghana consumers reported their preferences for vegetable oils bottle sizes. It was reported that 58% of participants preferred vegetable oils in bottle sizes between 1,5 litre and 5 litres bottles, 27% preferred bottles bigger than 5 litres and 15% preferred bottles between 300 milliliter to 1 litre.

For Nigeria one reference which identifies palm oil bottle sizes in the Nigerian markets was Ezealaji (2011) work relative to Imo state in south-east Nigeria. It mentioned different types of containers like, bottles or tins. In terms of container sizes sold to consumers was only mentioned the larger container of 18 litres tin or 200 litres drum. It was described that it is common for the consumer to bring its own bottle and refills it on the spot. Also, a new trend in packaged size emerged in the 2015 in Nigeria which PZ Wilmar says has driven an increase in company sales. The company's Devon Kings brand ,of palm oil, presented a new pack size of 100 milliliter that allows to cook for six people (Akwagyiram 2018).

- Indicator of Palm oil Retail Preferences

No information was found on Ghanaians' and Nigerians' preferences on the place to buy palm oil. According to Hollinger and Staatz (2015) data only 1% to 2% of total food sells in Ghana and Nigeria are in of modern food retail. Consequently, almost 99% of food sells occur in local street market, on the roadside, or local small independent stores.

- Indicator of Country's Trade Organization Membership Analysis

Ghana and Nigeria are both member of World Trade Organization (World Trade Organization 2016). Since Ghana and Nigeria are members, they have a customs system that imposes the most-favored nation tariffs to other member of World Trade Organization. If no other preferential trade agreement is in place — between two countries that are members of the World Trade Organization — than the most-favored nation tariffs will be applied. The most-favored nation tariffs has always a higher level than levels of tariffs in preferential trade agreement (World Bank 2010).

- Indicator of Country's Trade Block Membership Analysis

Both Ghana and Nigeria are members of the Economic Community of West Africa States, established in 1975 (Economic Community of West African States 2016). Being a trade union it looked to establish a single market, similar to the Europe Union (Economic Community of West African States 2016). In 1997, the members implemented a trade liberalization scheme where all members adopted a common tariff system (Ofosu-Budu and Sarpong 2013). On palm oil imports the common tariff system established a zero tariffs policy for palm oil imports from members of the Economic Community of West Africa States. When it came to palm oil imports from other origins the treaty did not establish a specific directive.

- Indicator of Country's Preferential Treaties with Europe Union

The members of Economic Community of West Africa States have been negotiating a preferential trade agreement with the European Union since signature of the Contonou agreement in 2000. In this agreement the European Union established the legal basis for negotiation of political issues, development cooperation and trade agreements with 79 countries in Africa, the Caribbean and the Pacific (European External Action Service 2016).

The trade agreement between the European Union and the members of Economic Community of West Africa States has been agreed upon individually, between the European Union and each member of west Africa states (European Commission 2019b). These agreements will bring to West Africa states quota free exports to the European Union, trade conciliation and co-operation in customs procedures, standards, sanitary and phytosanitary requirements, amongst other benefits (European External Action Service 2016). Ghana has already a provisional trade agreement with the European Union in place, however negotiations have not been completed. Until this moment Nigeria remains the only country from west Africa states that has still not signed the stepping stone agreement that would begin negotiations for a formal trade agreement (European Commission 2019b).

At this moment trade relations between Ghana and the European Union are governed by four alternative arrangements (Acheampong, Omane-Achamfuor, and Tawiah 2014):

- The World Trade Organization most-favored nation tariffs, available for all World Trade Organization members;
- The standard Generalised System of Preferences which is available for all developing countries;
- The Cotonou Agreement, available for 79 countries in Africa, the Caribbean and the Pacific;
- The Ghana-European Union provisional trade agreement.

When it comes to trade relations between Nigeria and the European Union only the first three are available, at this moment (European External Action Service 2016).

- Indicator of Country's Preferential Treaties with Portugal

According to Agência para o Investimento e Comércio Externo de Portugal (2017c) Ghana does not have any bilateral treaties with Portugal. According to Agência para o Investimento e Comércio Externo de Portugal (2018) Nigeria does not have any bilateral treaties with Portugal.

- What System Guides Portugal Imports Tariff System to the country

Since no preferential treaty is established, the tariffs level of portuguese imports to both Ghana and Nigeria are at the most-favored nation tariffs, because Portugal is also a member of member of World Trade Organization (World Bank 2010;World Trade Organization 2016).

- Indicator of Palm Oil Import Tariff

Import tariff is a percentage which is calculated based on the sum of the product's cost, insurance and freight (CIF) value. First, we must research the Harmonized Commodity Description and Coding System for palm oil. As we explained on section 3.4.2 the coding system is standard only to the sixth digit level. From the sixth digit onwards each country can divided its customs tariffs system as it wants (United Nations 2017). However, the next two levels of the table are the ones used to differentiate between palm oil for cooking and non-cooking uses. Therefore, we analyzed each country's customs tariff. Ghana

customs tariffs on palm oil are presented on table D7. Nigeria's customs tariff on palm oil imports are presented on table D8. According to Parliament of the Republic of Ghana (2017) the country has the highest tariff level of 35% import duty for refined palm oil, used mainly for cooking. According to Nigeria Customs Service (2017) Nigeria presents the same import duty levels as Ghana for refined palm oil.

Table D7 - Ghana's import duty for palm oil, according to the updated 2017 Harmonized Commodity Description and Coding System

Code	Definition	Type of Palm Oil	Type of Use	Import Duty (in percentage)
1511.1000.00	Palm oil and its fractions, crude, not chemically modified	Crude Palm Oil	Food and industrial uses	10
1511.9000.00	Palm oil and its fractions, refined, except chemically modified and crude	Refined Palm Oil	Food and industrial uses	
1511.9010.00	Fractions of Palm oil and its fractions, not fit for human consumption.	RBD Palm Oil	Industrial uses	10
1511.9091.00	Refined palm oil put up for retail sale in packings with content of 5 litres or less	RBD Palm Olein	Cooking use	35
1511.9099.00	Refined palm oil put up for retail sale in packings with content of 5 litres or more	RBD Palm Olein	Cooking use	35

Note: Adapted from Parliament of the Republic of Ghana (2017)

Table D8 - Nigeria's import duty for palm oil, according to the updated 2017 Harmonized Commodity Description and Coding System

Code	Definition	Type of Palm Oil	Type of Use	Import Duty (in percentage)
1511.1000.00	Palm oil and its fractions, crude, not chemically modified	Crude Palm Oil	Food and industrial uses	10
1511.9000.00	Palm oil and its fractions, refined, except chemically modified and crude	Refined Palm Oil	Food and industrial uses	
1511.9010.00	Fractions of Palm oil and its fractions, not fit for human consumption.	RBD Palm Oil	Industrial uses	10
1511.9111.00	Refined palm oil put up for retail sale in packings with content of 5 litres or less	RBD Palm Olein	Cooking use	35
1511.9099.00	Refined palm oil put up for retail sale in packings with content of 5 litres or more	RBD Palm Olein	Cooking use	35

Note: Adapted from Nigeria Customs Service (2017)

- Indicator of Additional Import Levies

Besides import duty countries can additionally input other levies. In both Ghana and Nigeria was identified an additional of Economic Community of West Africa States levy on imports of 5% of the product's CIF value and all other charges imposed by the country (International Trade Centre 2012).

In particular Ghana has a national health insurance levy, of 2,5% of the value added tax, and an export development and investment fund levy of 5% of the product's CIF value. The value added tax for all palm oil types is 15% (Ghana Revenue Authority 2012).

Nigeria has port development levy which is 7% of the import duty, a comprehensive import supervision scheme charge of 1% on the free on board (FOB) incoterm value of the imported goods (International Trade Centre 2012). The value added tax for all palm oil types is 5% according to Nigeria Customs Service (2017). Additionally, refined palm oil has an additional import levy of 25% of the product's CIF value.

- Indicator of Non-Tariff Barriers Analysis

In both Ghana and Nigeria no national technical standards for imported palm oil were identified (Ghana Revenue Authority 2012; United States Department of Commerce 2019a). Other types of non-tariffs barriers are import quotas and bans. As International Trade Centre (2012) explained "bans (also called

embargos or prohibitions) are absolute trade restrictions by which a country completely banishes trade with another country or forbids exporting its own products to it.” Ghana has no import restriction for all types of palm oil. Nigeria since 2011 imposed an importing ban on refined palm oil, which is still in place (United States Department of Commerce 2019b).