
The agribusiness industry and the Brazilian soybean producers' internationalization patterns

A indústria do agronegócio e os padrões de internacionalização dos produtores de soja do Brasil

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ABSTRACT: The Brazilian soybean producers, seeking competitive advantage and success in their business, understand that the foreign market becomes an alternative to diversify their activities, to seek new sources of income and to reduce dependence on their domestic market. However, the Brazilian context of international trade includes tariff and non-tariff barriers, which may jeopardize any deal, just because a simple price of goods increases or the withdrawal of a closing deal. This study analyzes three soybean exporting companies in the northern region of Rio Grande do Sul, through a multiple case study, more specifically about the barriers encountered in their internationalization process. All three cases demonstrated a development path toward internationalization, in view of gaining more competitiveness. However, there is still a large intervention by intermediaries, such as trading companies and brokers, in the export of soybean from Rio Grande do Sul. Even though exports are predominant among the soybean producers, the results show elements of hurdling about technical, logistics, sanitary and phytosanitary matters and subsidies.

Keywords: Barriers. Export. Trade.

RESUMO: Os produtores brasileiros de soja, em busca de vantagem competitiva e sucesso em seus negócios, visualizam o mercado externo como uma alternativa para diversificar suas atividades, buscar novas fontes de renda e reduzir a dependência do mercado interno. No entanto, o contexto brasileiro de comércio internacional inclui barreiras tarifárias e não tarifárias, que podem prejudicar qualquer negócio, simplesmente porque o preço de uma mercadoria aumenta ou a desistência de fechar um negócio. Este estudo analisa três empresas exportadoras de soja da região Norte do Rio Grande do Sul, por meio de um estudo de caso múltiplo, mais especificamente sobre as barreiras encontradas em seu processo de internacionalização. Os três casos demonstraram um caminho de desenvolvimento rumo à internacionalização, visando ganhar mais competitividade. Entretanto, ainda há grande intervenção de intermediários, como traders e corretores, na exportação da soja gaúcha. Embora as exportações sejam predominantes entre os produtores de soja, os resultados mostram elementos de contenção sobre questões técnicas, logísticas, sanitárias e fitossanitárias e subsídios.

Palavras-chave: Barreiras. Exportar. Troca.

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INTRODUCTION

To face today's competitive market, survive and increase profits, companies need to refine their strategies. Porter (1980; 1985) indicate that companies' revenues can be created, protected and appropriated by endogenous management practices. One way is to gain competitive advantages through internationalization strategies, seeking new markets and consequently, by reducing its dependence on local resources and by expanding its business network (LUO; BU, 2018).

The main export studies started to emerge from the 1950s, of the main ones being "The Export Basis Theory in 1955", when Douglas North published the results of his study on "Localization and Regional Economic Growth" (NORTH, 1955). But studies on internationalization patterns sought to understand the internationalization process from the moment an organisation breaks its borders into other geopolitical markets, with its own goals, strategies and markets, but not always aware of all the uncertainties that awaited them. The internationalization patterns rely on a complex strategic reality that changes the path of an organisation toward a constructive unknow, as the search for international markets requires an overall analysis in view of the numerous internal, external and competitiveness factors (DUNNING, 1988; SHARMILADEVI, 2017).

A mixture of elements that characterizes a region, such as its economic, geographic and cultural characteristics, do have an impact on local natural resources supply, labor productivity, government, fiscal and exchange incentives and its infrastructure. They are determinants to any company's performance, as well as its entire ecosystem (MACCARTHY; ATTHIRAWONG, 2003; NYSTRÖM *et al.*, 2019). In order to understand such context, research developed two main lines of thinking, one being economic, based on a solid rational paradigm, and the other on management theories, which seek to understand culture, organizational behaviour and other elements that influence the outcome of investments and international insertions (BUCKLEY; CASSON, 2009).

In such context of international insertion, Brazil clearly stands out with one of its most important exported products, the bulk soybean production, where its international sales have grown significantly in recent years (CAMPEÃO; SANCHES; MACIEL, 2020). The main challenges for soybean producers and exporting companies, as well as those inherent in bulk grain production, are the Brazilian logistical bottlenecks, which drastically affect the logistical costs, which interferes in product pricing and harms international trade. In addition to these internal barriers, tariff and non-tariff barriers established when deciding to export a certain product must be designed and implemented. Trade barriers are one of the major challenges facing international multilateral negotiations, especially for the developing countries. These

trade barriers include laws, regulations, policies, measures or practices that a country's government adopts to regulate or to restrict international trade (SRINIVASAN, 2019).

The focus of this article is to understand how soybean producers and exporting companies develop their internationalization schemes and what practices they establish and implement to face market barriers and consequently increase their participation in that market. This study analyzes three soybean export companies in the northern region of Rio Grande do Sul, through a multiple case study, more specifically about the barriers encountered in their internationalization process. Even though exports are predominant in the producers, the results show elements of hurdling around aspects concerning technical and logistics matters, sanitary and phytosanitary matters and subsidies.

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2 THE BRAZILIAN SOYBEAN INDUSTRY

The elements that have a favorable impact on the Brazilian soybean production are based on the potential area available to expand production. High profitability and commercialization agility, combined with a high market demand, especially from China, has a positive impact on soybean production. In a period of 15 years, in the State of Rio Grande do Sul, were planted 100 % more grains for the same areas of plantation, suggesting a disruptive improvement in use of technology, in the implementation of new and more effective, which enhanced the whole soybean Brazilian production capacity (DE MELLO; BRUM, 2020; KOPF, 2020). The Brazilian government, however, has authorized the use of biotech crops - having approved the use of herbicide tolerant soybeans by 2003, which the objective to help to achieve a greater cost advantage in the soybean market. For the last twenty years, 50% of the soybeans planted were from a biotech variety, which come to approximately to millions of hectares, from which the transgenic crops represented more than 50 million hectares in 2018 (soybeans, corn, cotton and cane) in Brazil (ISAAA, 2018).

The Brazilian Soybean market is mainly regulated by a complex legal pattern that includes Federal Laws and Regulations. The Seed Law (BRASIL, 1977) implemented by the n° 8.771/78 Decree (BRASIL, 1978), sets standards for the production of certified and inspected seeds. The Ministry of Agriculture Directive Decree (BRASIL, 1998) set the norms for the National Agrobusiness Registry. The Ministry of Agriculture Directive (BRASIL, 1998a), approves the bylaws of the National Agropecuarian Protection Service (Serviço Nacional de Proteção de Cultivares/SNPC). There are bills in Congress (Senate Bill n° 12 and Chamber of Deputies Bill n° 4.828/98) aimed at replacing the 6.507/77 Law. Currently, the Law establishing the National System of Seeds and Seedlings - SNSM (BRASIL, 2003) is in force by regulated decree (BRASIL, 2004).

The Brazilian Ministry of Agriculture and several State Departments of Agriculture constitute a permanent barrier for the soybean producers, which has a constant impact on their internationalization patterns. Until the mid-1960s, laws to control seed production, marketing and distribution were mostly written by States, and focused on local issues and problems (BAKER, 1989; GARWOOD, 1989). Afterwards, Brazil's seed sector began to centralise its policy decision-making in the federal government.

A first national law, published in 1965, establishes the rules aimed at regulating seed trade, with no provisions for organising the production of seeds and seedlings. The standards were partly based on the State of Rio Grande do Sul experience, which had already implemented its own seed inspection laws, which contributed to the creation of the National Seed Plan – Planasem (1967) (WELCH, 1973). Such barrier can be seen as the first attempt to create an organised seed production system in Brazil, with the objective to establish the supporting role for public agencies in producing basic and commercial seeds, and by requiring the prescription of all producers involved in producing seeds and seedlings.

The initial regulation of the Seed Law of 1965 was followed by an organised State seed production system, which was not supported by the original federal legislation. The publication of the Federal Law 6.507/77 and the creation of a legal framework for the Brazilian seed market, dealt with the inspection and control over seed production and trade. It is considered as one of the key steps in seed production regulation in Brazil. Many of the arising barriers for soybean producers come from those laws and refer to various activities such as compulsory inspections and production control, and trade in seeds and seedlings and the official sanctioning of an inter-related organisational system at the core of the Brazilian seeds and seedlings system, configuring themselves as technical, phytosanitary or non-tariff barriers, sometimes implemented to bar trade of certain products (FREDERICO, 2008; SCHUENEMANN; KERR, 2019; CARDOSO; GALANTE; SCHNEIDER, 2014).

The dynamics of the soybean market are intensely interlinked with the Brazilian agriculture modernisation processes. These processes produced the concentration, specialisation and regionalization of the soybean production, leading to a differentiation in the dynamism of different crops (CAMARGO *et al.*, 2017), like soybean. Since soybean production is very sensitive to high temperatures, its production rather expands in the southern states of Brazil. The States of Rio Grande do Sul is a national leading producer, but the expansion of soybeans into new regions has also caused a re-organisation of seed production, with a new regional specialisation for these varieties (GOLLNOW, LAKES, 2014).

The main factors that relate soybean production and producer's competition relate on product qualities and higher yields. It requires the understanding and the usage of cultural barriers; technical barriers, and sanitary or phytosanitary barriers (CARDOSO; GALANTE; SCHNEIDER, 2014; INMETRO, 2014; BATTISTI *et al.*, 2018).

3 INTERNATIONALIZATION PATTERNS

Companies' successful international patterns depend not only on the combination of international business strategy with operations strategy, but also on the integration of the coordination and configuration decisions (ALCÁCER; CANTWELL; PISCITELLO, 2016).

The companies' internationalization process has been driven by several technological advances, but the importance to integrate into the whole world has always existed since ancient times. There have been thousands of years since the great navigators sought new trade routes for the circulation of goods and services, either to conquer, to trade goods or to be part of a new venture (GLOWIK, 2020).

The theory proposes two streams in internationalization studies. The first one is economic, since it has contributed to research development and theory building over the last 50 years. John Dunning, in his book published in 1958 and entitled "American Investment in British Manufacturing Industry", observed the scale of internationalization and its economic consequences. Dunning's eclectic paradigm, based on the concept of ownership, location and internalization (OLI), proposes that the determinants of business performance are related to three different factors, which vary according to the country, its industry and the company characteristics. These concepts either relate to a specific proprietary advantage in terms of trademark or patent ownership, or a localization advantage for any sustained reason, or from internalization advantages sustained by local administrative and legislative apparatus (DUNNING, 1988; SHARMILADEVI, 2017).

Dunning (2001) explained key propositions of the eclectic paradigm (OLI), which are related to operational decisions in international terms, summarizing them in three sets of forces: (1) the competitive advantages that companies of one nationality obtain over others of different nationalities, in the markets supply or in a set of markets; based on specific ownership privileges (O - ownership) or its ability to coordinate income, by generating assets in order to differentiate itself from the competition; (2) the interest to internalize (I - internalization) markets to generate these assets and to create added value for products and / or services; (3) the location (L - localization) chosen by the companies for their activities (operations), adding value outside their national borders and ensuring that competitive advantages that are of specific characteristics for each market / industry, and for each region or country (geographical dimensions), do not allow generalizations.

The Eclectic Paradigm, as proposed by Dunning (1988; 2003), suggests a link between the decisions of international operations and structural and location factors issues. Location becomes a key factor to determine an internationalization operation decision. The geographic,

economic and cultural realities are deterministic issues that impact on region to design and incentivise agile local government policies, the availability and capability of local labor, supply or any fiscal and exchange incentives of a region and its infrastructure are determinants of any company's performance (MACCARTHY; ATTHIRAWONG, 2003; ONSTEIN *et al.*, 2020).

In an endogenous perspective, the review of the eclectic paradigm, from a hierarchical to an alliance pattern understanding, encompasses the advantages that emerge from performing operations that add value and relationships with the institutions and resources located in foreign countries (DUNNING, 1998; SHARMILADEVI, 2017).

The behavioural internationalization theories originate from Sweden researchers who dedicated their work on four major multinational companies, which describes and analyzes the internationalization their development patterns. The basic assumption of the authors is that companies firstly develops their domestic market where from the internationalization pattern becomes the result of a series of incremental decisions, which may follow a path composed of non-regular export activities, or using export independent representatives, subsidiary or through international manufacturing. These phases are described as a chain of incremental decisions that may be influenced by a psychic distance, such as the manager's educational level and knowledge, their language and culture, or the political system they are inserted in. It constitutes the factors that may hinder or disturb the information channels between a company and its international market, generating uncertainties and inhibiting their capacity to identify opportunities. It points out that knowledge and commitment, which are directly related, interfere with current and future investment decisions toward a path of constant uncertainties reduction. The authors highlight the theme of industrial networks as a path to internationalization and the creation of competitive advantages, where international organizations are mostly restricted to when entering other markets to gain advantage. Consequently, international organisations are not always related to their product, but to their personal and social relationships with the directly or indirectly involved international stakeholders (JOHANSON; WIEDERSHEIM-PAUL, 1975; JOHANSON; VAHLNE, 1990; 2003; 2009; HULT; GONZALEZ-PEREZ; LAGERSTRÖM, 2020).

According to the Uppsala model, the firm internationalization process is driven interaction between international operations knowledge on the one hand and commitments to international business on the other. The model is based on relationships improvement as a consequence of learning patterns and its accumulation (JOHANSON; WIEDERSHEIM-PAUL, 1975; JOHANSON; VAHLNE, 1990; 2003; 2009).

Contrary to the economic approach, the behavioural approach has elements that are not always possible to measure, which limits its application and generates scientific criticism. However, the economic approach also has its own limits, since not all information is available, making it difficult to reach a comfortable level of certainty in terms of decision-

making. Such dichotomy demonstrates that models cannot respond to all the complexity that involves a process of internationalization, and it is up to the scholars of the area to merge approaches and correlate submerged elements of the organizational reality.

Also, the concept of internationalization can be understood as an outcome of a common business process, supported by the concepts of international entrepreneurship, the business network, results and the dynamic capabilities, including elements such as trust, learning, knowledge and others that interfere in the internationalization process. A model becomes more interpretative being analyzed holistically, as it includes subjective elements that are not possible to measure. It allows the analysis of the internationalization processes in a broader manner (JOHANSON; VAHLNE, 2009; SCHWEIZER; VAHLNE; JOHANSON, 2010).

4 TRADE BARRIERS ON EXPORT

Countries threatened by new entrants in their economy often impose rules, sets laws or sets some strict measures to protect the national industry. Such measures mostly affect on international ambitious companies and these disruptive difficulties are called trade barriers. Trade barriers are one of the major challenges facing multilateral negotiations, especially for developing countries. These trade barriers include laws, regulations, policies, measures or practices that a country's government adopts to regulate or to restrict international trade (SRINIVASAN, 2019).

Since international companies occupy new market, they become competition for the local companies in the destination countries. In a Brazilian context, tariffs constitute disruptive geopolitical strategies with the clear objective to defend its own industry, commerce and economy in general (SEYOUM, 2013). As a result, each country seeks tools to protect itself and to develop, by controlling the flux of entry of any product, goods or people in its territory. The Brazilian government refers to them as "Customs entrants", which, encompasses the entire national territory (INMETRO, 2014).

The State may intervene as a negotiator with other nations and as a promoter, by helping local companies to project themselves in foreign markets; but the State may also act as a legislator, an administrator and an inspector to protect its economy from competitors (SEYOUM, 2013). But such disruptive actions may be fatal to some companies, due to its incisive character and its difficulty to foresee. Experienced organisations may be able to overcome some of these obstacles if they are sufficiently prepared to face them.

Tariffs or Customs are the most often used trade policy instrument used by any government. It influences market prices without directly imposing the number of products or services to be bought or sold. Tariff are trade barriers in which a country stipulates an overpayment for goods or services from other nationalities to allow access to its geopolitical

sovereignty. It is a simple and efficient practice of protecting a local economy, but it results in a major hurdle for exporters and it may discourage a company from starting or continuing with an internationalization strategy (SEYOUM, 2013; SRINIVASAN, 2019).

Tariff barriers are the ones that restrict or distort trade through import tax rates, miscellaneous taxes and customs valuation. They affect the entry of the product to be imported, where the import tax constitutes the main tax and can only be applied when the product enters the country (APEXBRASIL, 2017).

To protect their markets, countries seek to use mechanisms that hinder access to imported goods, known as trade barriers. The most usual way is to use tariffs. However, with international trade negotiations, which generally result in reductions in tariffs that countries can use, new devices have been developed to hinder imports, the so-called non-tariff barriers, especially through technical barriers (INMETRO, 2014).

Nontariff barriers have the goal to prevent foreign goods from entering without having to impose a tax payment on them. The practice of barring products from other countries without charging a fee can only oblige the exporter to be more careful with his export operation, but it can become discriminatory when over-done. Some of these measures may be beneficial for human health and environment preservation but they can mean discrimination and commercial protectionism, if they are practiced in a very strict or insecure manner (GRUNDKE; MOSER, 2019; KINZIUS; SANDKAMP; YALCIN, 2019).

Since many mechanisms have been put in place against tariff barriers, setting barriers without charging tariffs has become a common practice, such as the creation and the implementation of the General Agreement on Tariffs and Trade (GATT) (INMETRO, 2014). As for the emergence of these barriers, they can come from a need to meet technical requirements, such as those laid down in a technical regulation program, or for administrative requirements (APEXBRASIL, 2017). Figure 1 represents the research model.

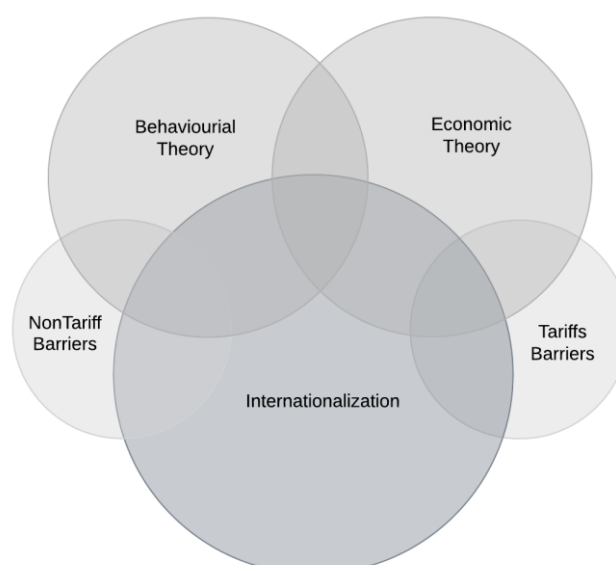


Figure 1. Research Design
Source: Prepared by the authors.

A summary of the non-tariff barriers that are addressed in this study are introduced in Table 1.

Table 1. NonTariff Barriers

| | |
|---|--|
| Cultural barriers | Some aspects where most mistakes occur when dealing with different cultures: language, body language, sex, greeting, humor, among others (GRUNDKE; MOSER, 2019; KINZIUS; SANDKAMP; YALCIN, 2019). |
| Technical Barriers | The technical requirements established for the products or services in the target markets (INMETRO, 2014). |
| Sanitary or Phytosanitary Barriers | Sanitary and phytosanitary measures are actions expressed in a country's law, decree, regulation or procedure, applied to: <ul style="list-style-type: none"> - the protection of the life and health of animals and plants from pests, diseases and pathogenic organisms; - the protection of the life and health of persons and animals at risk resulting from the presence of additives, contaminants, toxins or pathogenic organisms in food products; - the protection of the life and health of people from risks arising from diseases spread by plants and animals; - the prevention or control of other damage caused to a country as a result of pests entering, rooting or spreading (INMETRO, 2014; APEXBRASIL, 2017). |
| Quantitative Restrictions | Instruments that limit the value or the volume of imports of a given product and may also indicate the quantities that each country can import individually. (INMETRO, 2014; APEXBRASIL, 2017). |
| Supports | Official aid that the government of a country provides to exporters or the a group of exporters, whether financial, commercial, foreign exchange or tax, which may cause harm or threat to the importer or national industry (INMETRO, 2014; APEXBRASIL, 2017). |
| Logistics Barriers | These are the current barriers aimed at the security of a country, thus intervening in the flow of goods in and out of its territory. Expenses for the exporter with customs procedures reduce its competitiveness, which needs to increase its prices (PEREIRA; DOS SANTOS; FERREIRA (2019). |

Source: Prepared by the authors.

Therefore, countries have been obliged to protect their domestic industries by implementing non-tariff barriers, not by imposing tariffs on foreign products to enter their country, but by making some other specification by discriminating against some commodities.

5 METHOD

Thus research is a multiple case study, which is characterized by being a deep and exhaustive study to obtain broad and detailed knowledge of the object in order to contribute to existing knowledge, or to understand complex social phenomena (YIN, 2017). This research seeks to understand how soybean producers and exporter companies develop their

internationalization standards and what are their practices to face market barriers and consequently increase their participation in that market.

Due to its characteristics the research has a descriptive component, which seeks to discover the frequency, nature, characteristics, causes, and relationships, for this the researcher assumes the role of observer. Data was collected through in-depth interviews from each department responsible for the internationalization process, by looking for the most accurate and realistic information, and by having a greater focus on the practical performance of their results. Data collection was performed through semi-structured interviews and consisted in group discussions with all managers and expert from each company for a total of 12 participants. All data was regrouped by company to guarantee confidentiality in the analysis process according (CRESWELL; POTH, 2016). The companies are member of the Rio Grande do Sul Cereal Business Association (*ACERGS*) that support and assist in the market development and the soybean internationalization process.

The interviews were conducted with all the participants involved with the international trade activities. The interviews were conducted over a period of three months, from July to september 2018, based on a semi-structured question script with the objective of obtaining information about a particular subject through a professional conversation (CRESWELL; POTH, 2016). These interviews were recorded (totaling 6h37min of recording) and later transcribed (totaling 69 pages transcribed) to ease data analysis. These addressed primarily the internationalization process and the barriers faced by soybean exporting companies in the northern region of the State of Rio Grande do Sul.

The data analysis performed had a qualitative nature, followed the process of reducing the data, categorizing, interpreting them and then writing a report on the information collected. According to Creswell and Poth (2016), qualitative research also formalizes the information, but is concerned with preserving the reality above the method.

The cases are leading producers of the north-eastern region of the State of Rio Grande do Sul, Brazil is the world's second largest soybean producer, contributing to approximately 28% of the total world production. The State of Rio Grande do Sul (RS) is the second largest soybean producer in Brazil, second from the State of Mato Grosso (2018/1019 harvest data) (EMBRAPA, 2019). According to data from Embrapa S.A., the State of RS produced 19.187 million tons of soybean in the 2018-19 harvest, in a planted area of 5.778 million hectares. These data have been advancing in recent years, as a result of the use of new planting and soil management technologies, such as genetic and transgenic improvements, no-till and precision farming methods, as well as new areas in the region. The production is mainly destined for the foreign market and is the most prominent item on the list of exports from the State of Rio Grande do Sul.

The main producing municipalities are located in the northwest region of the State of Rio Grande do Sul. In the 2015-2018 period, 33 municipalities had an average production

greater than 100,000 tons/year and all together they represent almost 40% of the State's soybean production. Among them is the municipality of Passo Fundo, a pole city in the northern region, siting one of the participating companies in this research.

5.1 THE ALPHA COMPANY

The Alpha Company is located in the city of Não-Me-Toque, 279 km from the capital Porto Alegre, a city with an estimated population of 17,624 people (IBGE, 2019), with a GDP per capita of R \$ 66,717.81, and a Municipal Human Development Index (MHDI) of 0.765. Like most municipalities in the state, its economy is based on the service sector, representing 54.2%, industry with 36.5% and the agricultural sector with 9.3% (IBGE, 2019).

The Alpha Company was founded in 1963, its internationalization process started in 1997 and 1998, and the company relies on a management group to deal with its export matters. This company exports transgenic soybean and seeds. In 2018, it exported up to 85% of grains and 8% of seeds.

5.2 THE BETA COMPANY

The Beta Company is located in the municipality of Passo Fundo (RS), 288 km from the capital Porto Alegre, a city with an estimated population of 203,275 people (IBGE, 2019), with GDP per capita of R \$ 43,183.62, and a Municipal Human Development Index (MHDI) of 0.776. Like most municipalities in the state, its economy is based on the service sector, representing 86%, industry with 12.10% and the agricultural sector with 1.9% (IBGE, 2019).

The Beta Company respondents are the family business owners, which are composed of the father and both sons, they all intervene in the soybean export process, which are only transgenic grain. The company, headquartered in the municipality of Passo Fundo, started its activities in 1991 and exported for the first time in 2002. In 2018, approximately 20% of its soybean production was destined for the international market.

5.3 THE GAMMA COMPANY

The Gamma Company is located in the city of Tapejara, 304 km from the capital Porto Alegre, a city with an estimated population of 24,111 people (IBGE, 2019), with GDP per capita of R \$ 39,664.98, and a Development Index Municipal Human Resources (MHDI) of 0.76. Like most municipalities in the state, its economy is based on the service sector, representing 56%, industry with 35.7% and the agricultural sector with 8.3% (IBGE, 2019).

The Gamma company is located in the municipality of Tapejara (RS). It was founded in 1987 and initiated its exports in 2000. The commercial management group included four

professionals, handling its international marketing, which exports only transgenic grain and in 2018, it exported 70% of all its production of soybean.

Table 2. Introduces a condensed portrait of the three soybeans producers

| Company | Participants | Located in | Foundation year | Year of 1st export | Soybean type exported by company | Percentage of soybean production for international market |
|--------------|---------------------------------|-------------------|-----------------|--------------------|----------------------------------|---|
| Alpha | Administrative management group | Não-Me-Toque (RS) | 1963 | 1997/1998 | Transgenic grain and seeds | Up to 85% grain and 8% seed |
| Beta | Family owners | Passo Fundo (RS) | 1991 | 2002 | Transgenic grain | About 20% |
| Gamma | Administrative management group | Tapejara (RS) | 1987 | 2000 | Transgenic grain | 70% |

Source: Prepared by the authors

6 RESULTS AND DISCUSSION

Data was obtained from the interviews concentrated in all three companies. Data refers to the entire soybean internationalization process in each company, emphasizing the tariff and non-tariff barriers encountered by them in such process.

6.1 THE ALPHA COMPANY: BARRIERS IN THEIR INTERNATIONALIZATION PROCESS

The company had already destined many products for indirect exportation, but it was not until 1997 that it sought market and made its first direct exportation to Paraguay. The internationalization of the company was due to marketing efforts, spending days in Paraná at Fairs, where products were presented and through a constant exchange of ideas and data, business arose. There was, at the beginning of the export activities in 1997 a certain problem in offering the variety of products that Paraguayan required and the difficulty of not knowing how to obtain payment guarantee. The buyers didn't want to pay in advance, and we didn't want to ship without a payment guarantee.

The Alpha Company A exports transgenic soybean. More than 85% of the company's total soybean production is exported and the balance is traded domestically by a broker, but the company exports its soybean production directly to Paraguay and Uruguay, without the support of a trader. Since the beginning of their operations, there were already laws that protected and encouraged exports with tariff barriers, but the foreign currency variations

impacted on soybean export, especially with a dollar quoted much below the usual, the export operations are performed only to create a bond with a client, often not making any profit.

In terms of non-tariff barriers, the cultural barriers were not considered a problem for the company, since in countries like Paraguay and Uruguay, the customs and language are similar to the Brazilian ones. But it was commented that some countries in Europe like France do bar transgenic soybean and the country is cited as the one that most creates obstacles to transgenic soybean grain, confirming the existence of a technical barrier.

Sanitary and phytosanitary barriers are very expressive in Brazil. Such customized context impacts negatively on Brazilian producers within the Mercosul region and they are the most affected by the agreement. There have been two changes in the Agreement that include these phytosanitary issues. Such changes require more reports and monitoring from technical professionals in the field, more contacts with the Ministry of Agriculture to respond to new normative restrictions. The raise in bureaucratic monitoring on all crops from the Brazilian side and the lack of reciprocity between the laws from Paraguay and Brazil makes it unfavorable for Brazilian producers.

As for the quantitative barriers, the amount of exported soybean depends on demand and there is a contract previously determining the quantity, cutting any risk. As for the Brazilian subsidies, the Government assists the export process by exempting companies from taxes such as ICMS, PIS and COFINS. which do not need to be paid when the product is destined out of the country.

The Alpha Company is aware of the importance of investing in foreign trade, of having trained personnel to meet the requirements of foreign markets and to meet the need to meet the international quality standard and to resist the barriers imposed by other countries. But it is necessary to improve the Brazilian export conditions, especially the road infrastructure and the main means of transporting agricultural products, by joining initiatives with the Ministry of Agriculture, in order to reduce the impact of barriers for Brazilian soybean producers.

6.2 THE BETA COMPANY: BARRIERS IN THEIR INTERNATIONALIZATION PROCESS

The Beta company started exporting in 2002 by targeting the Chinese market. The company relied on Brazilian trading companies to develop such new market, considering the huge potential volume of business that could be done. The export team relied on indirect export to achieve success. The objective of the development of this new foreign market was to seize opportunities and gain competitiveness.

The company has rarely operated in direct export activities and today it only indirectly exports transgenic soybeans, for about 20% of its total production. The company management

believes that for a medium size company, it is not easy to operate directly in foreign markets. It reports that export patterns were already pre-defined and you either follow them or quit. The worst being that at the end of one year, the quantity of soybeans sales abroad does not change much from the quantity of soybeans sold domestically. However, the domestic market offers the possibility of selling an unprocessed product as the local industry will process it. The only requirement in terms of quality relies on the Brazilian standards, with a maximum of impurities at 1%. As for the tariff barriers, expenses refer to the Customs clearance, the customs broker, THC (the port costs), which, are very high in Brazil. It makes the whole operation more expensive and generates more risk. Consequently, the producers have to augment the price of their goods to cope with such reality.

The cultural barriers are not perceived as a real problem, since they operate through export brokers. Therefore, there is no strong concern with this type of barrier. One major barrier to Brazilian producers is the export infrastructure. Since the Brazilian ports are not well-suited, it affects the cost and the quality of the export process. But such reality does not include the storage facilities, which are perceived as being of high quality.

Sanitary and phytosanitary procedures are done in Brazil before the goods are being sent to the foreign country, although many importers want the classification to be done in their country. It is crucial to avoid any risk because anything the buyers may find from the specifications, because they could send the shipment back to Brazil, which would cause a huge loss. So the soybean goes through a national inspection before shipment is done.

No quantitative barrier is subject to such international freight, since the contract is previously established according to the foreign demand. But the price of freight is crucial and is considered as a key factor that makes a client buy the product or not.

Finally, the greatest technical barrier of entry in a foreign country occurs when countries do not accept transgenic soybean imports, because they only import conventional soybean, such as some countries in Europe, more particularly in Denmark.

6.3 THE GAMMA COMPANY: BARRIERS IN THEIR INTERNATIONALIZATION PROCESS

The company that has been in existence since 1987, has been internationalized since 2000, with its first export destined to Uruguay, and the first commodity being exported was white oats. At the beginning, most of the exports were conventional soybean. Today, the company trades both internally and externally transgenic soybean exclusively. They also import raw materials in the fertilizer area and exported corn and wheat.

Regarding the tariff and non-tariff barriers encountered by the company throughout its internationalization process, the main difficulty refers to the tariff barriers, because it determines whether or not to export, and where.

The company is increasingly offering quality and competitive products to the consumer's market. When there is a demand from foreign markets, the company follows all the required sanitary and phytosanitary restrictions, as well as concerns about the evaluation of the soybean that leaves the company at par with the total grain quality.

Although there is a concern about quality, which involves sanitary and phytosanitary issues, it does not constitute a barrier, since when there is demand in a country, they are advised by brokers and trading companies, thus letting them focus on providing customers from Brazil and other countries with the best products.

About 70% of the soybeans is currently destined to the international market, emphasizing that it has increased the volume of its business. Since the first export and import, the company intends to continue its international development at the same pace, gradually increasing its market space, and using a policy competent and serious, increasingly offering quality and competitive products in consumer markets. Such vision is coped with a desire to increase its imports of raw materials needed for fertilizer manufacturing, by offering producers products to increase soybean and grain productivity.

6.4 ANALISYS

Trade barriers characterize a complex obstacle for Brazilian companies specifically for the soybean exporters, since they either encounter difficulties with the logistics, sanitary bureaucracy, lack of government support or for technical matters. Thus, the barriers perceived by the producers on their internationalization strategies are presented in Table 3.

Table 3. Results

| Company | Internationalization strategies used today by companies | Trade barriers perceived by companies |
|----------------------|--|---|
| Alpha Company | Direct Export and Indirect Export | Logistics Sanitary and Phytosanitary Support Technique |
| Beta Company | Indirect Export | Logistics Sanitary and Phytosanitary Technique |
| Gamma Company | Direct Export and Indirect Export | Tariffs |

Source: Prepared by the authors

It can be inferred that all three companies perform indirect exportation through trading company or freight forwarder or customs broker. However, only the Beta Company apply direct export strategy, since both the Alpha and the Gamma companies do export both directly and indirectly. As for the trade barriers perceived by the companies, the first two agreed in citing the logistical, sanitary and phytosanitary and technical barriers. In addition to these

three barriers, the Alpha Company also commented on the lack of government subsidies. The Gamma Company C showed concerns only about the tariff barriers, which may be caused by a different company profile or because of different export destinations.

The results show that some elements of the internationalization theories are present in the respective cases, more specifically with the economic perspective, converging with the Dunning paradigm (1988; 2001; 2003) and corroborated by other various authors (SHARMILADEVI, 2017; ONSTEIN *et al.*, 2020), as they refer to the concepts of ownership, location and internalization (OLI). In reference to the concept of ownership, the results show that the soybean producers and exporting companies are increasingly professionalized, articulated with their stakeholders, especially with the soybean traders and producers, thus generating what Dunning (2001), when it refers to the ability to coordinate generating assets income, in order to differentiate itself from the competition. One key aspect to be noted as a determining factor is the exchange rate of the Brazilian real against the US dollar, which directly interferes in the mark-up value, in addition to the current soybean demand and supply in the market. Also, the results do not treat data concerning multinational export actors, but refers to an internalization strategy that rely on local exporting companies, with its endogenous international market expertise and knowledge. The last element to be considered in the research refers to the importance of production location and their proximity of export means, which constitutes a competitive advantage, but still distant from the international consumer markets. Such results demonstrates an obvious for improved logistic patterns and processes, to minimize costs. In this regard, Brazil has competitive geographical and infrastructural disadvantages, since the national road system is in a poor condition, in addition to the scarcity of railways and ports logistic infrastructure, despite having already improved significantly in recent years.

The behavioral paradigm (JOHANSON; WIEDERSHEIM-PAUL, 1975; JOHANSON; VAHLNE, 1990; 2003; 2009; HULT; GONZALEZ-PEREZ; LAGERSTRÖM, 2020) shows a strong identification among the producers, as the soybean producers and exporting companies started their activities endogenously, and then seek internationalization, initially with closer Mercosur countries, and then through new markets, with the support of representatives and the trading companies. The producers do not consider to establish any subsidiary abroad, which is a demonstration of the lack of knowledge and confidence. The element of trust is important for the producers, showing that even if the export period is not advantageous, business will be maintained with their main partners, to maintain confidence in their commercial relationship. It is a direct consequence of a learning pattern that the producers have achieved, strongly expanding their exports indigenously. It reinforces what the classic and contemporary authors of the behavioral paradigm have emphasized. Decisions are not always related to the product, but to their personal and social relations with the international stakeholders directly or indirectly involved.

7 CONCLUSION

All three cases demonstrated a development path toward internationalization, in view of gaining more competitiveness. However, there is still a large intervention by intermediaries, such as trading companies and brokers, in the export of soybean from Rio Grande do Sul. It points out the dependence of the producers on their internationalization process. Such pattern may be the consequence from some fear from the producers to launch alone their international strategies, or either the lack of a more widespread culture focused on the internationalization of companies. Also, the companies do not sell their goods in bran and oil, which has higher added value. The companies concentrate their activities on transgenic soybean production, which is barred in some countries, especially in Europe.

The results show a large predominance of non-tariff barriers in relation to tariff barriers, as they suffer pressure due to laws that protect Brazil and encourage liberal trade in goods between different countries. Among the non-tariff barriers, the most problematic refers to the logistic barriers and the sanitary and phytosanitary barriers. The others are not so prevalent and when perceived do not worry so much the soybean producers.

The Brazilian logistics is a major obstacle to its own international trade and has generated problems in all three transport modes used by the soybean producers. The road system presents serious problems in terms of infrastructure capacity, generating traffic problems in the vast majority of access roads. The rail transport system is incipient, or inexistent in most of the production areas in the country, making it difficult to hire any railway transport services, since there is almost no supply and so much demand. As for the maritime transport, the lack of medium and long-term planning and legal uncertainty constitutes its main obstacle, since it suffers constant legal changes and political interference.

Sanitary and phytosanitary barriers were the most commented by the producers. According to them, importing countries place many restrictions and these barriers entail excessive costs for Brazilian companies, which need to hire specialized people to evaluate the crop. This is necessary because there is a constant fear that a ship will be sent back to Brazil because it is not in compliance with the sanitary and phytosanitary standards of the destination country.

The Southern region of Brazil generates approximately half of all Brazilian soybean production and there are three important sea ports that ship around 40% of all national soybean production (MDIC/SECEX, 2019) through the ports of Rio Grande (RS), Paranaguá (PR) and São Francisco do Sul (SC). This logistical facility provides the producers located in each region with a competitive advantage, reducing their production costs and adding value to their product. The export equation has optimized geographical patterns, since their local production costs have a direct relationship with the exchange rate, the current demand and supply and the

other current tariff and non-tariff barriers. It is important to note that in 2020, the current demand and a favorable exchange rate, have ended up not being exports obstacles.

With the constant growth in food demand, and since Brazil is considered as one of the main agricultural producers in the world, it is necessary that the public managers merge their views with the local producers to invest in a sophisticated and efficient logistics infrastructure, by expanding the railway supply, by improving the road system and by creating legal security for greater private investment. As for the maritime extensions, the responsible government agencies must converge their solutions to the local and actual production concerns.

Finally, it is noteworthy that the present research has methodological limitations, as the analysis of only three soybean producers and exporters show limitations, although it introduces some key problematic elements of the sector's realities. It is recommended for future studies expanding researches through the producers themselves, their strategies, their capacities in terms of knowledge and the public service services and investments as a key complementary element for understanding such realities, with the search for data available on the website of the Ministry of Economy, and elaborated quantitative analysis to understand the correlation that may arise between the key national parameters of the Brazilian soybean production and export.

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