



## INTERNATIONALIZATION OF STATE MULTILATINAS: A MULTI-CASE STUDY IN THE OIL SECTOR

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### ABSTRACT

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In general the study of internationalization process of companies from Latin America is scarce compared with companies from Europe and USA. Likewise the study of state ownership in the region is scarce. In this regard, the main aim of this paper is analyze the internationalization patterns of the main state multilatinas: PEMEX (Mexico), PETROBRAS (Brazil) and PDVSA (Venezuela). Considering the interpretation of the main internationalization theories as: Eclectic paradigm and Uppsala model, a multi-case method was carried out in order to fulfill the purpose of this paper. The main results suggest an integrated operation, combined with innovation and technological development is used by the studied companies. Likewise, the three companies follow similar internationalization patterns as exports, joint ventures and foreign direct investment. The main difference is the place where they go abroad, PEMEX mainly focus its international operations in Europe and USA, PDVSA, go mainly USA and Asia and PETROBRAS go to Latin America and Africa.

**Contribution/Originality:** The main contribution of this paper is analyzed the way that the State participates in the internationalization process in Latin America.

## 1. INTRODUCTION

The internationalization of State companies have taken relevance the last years (Cardoso *et al.*, 2014). For this reason the aim of this paper is to analyze the main internationalization patterns of the main state multilatinas: PEMEX, PETROBRAS and PDVSA. Furthermore this paper describes the main foreign entry modes that has selected the main state multilatinas in its process of internationalization.

The internationalization is a process that have been explained for several theories. The most accepted theories that explain this process are the Eclectic Paradigm (Dunning, 1988) and Uppsala Model (Johanson and Vahlne, 1977). These theories have been founded in different analysis of the economy, competitive advantage, the behavior of markets and distribution of resources. According to Lugo-Benitez (2007) is through all this information that can be seen the possibilities of different companies to evolve in other markets, exchange products and find the best

alternatives for international expansion. The reason is because of all the "trends such as the growing of the interdependence between countries, the formation of regional blocks, the rise of emerging economies and technological advances in different sectors, make up an increasingly competitive and changing global environment" (Dahlam, 2007).

It is important to analyze why were selected Petroleos Mexicanos (PEMEX), Petroleo Brasileiro (PETROBRAS) and Petroleos de Venezuela (PDVSA) as objects of this research. First, some studies about oil sector and state ownership has been identified (Zanoni, 2005; Hernández and Leidenz, 2014; Zavala-Gutiérrez, 2015) however they have not been identified studies specifically in Latin American countries. Second, Latin America has important State multinationals that have played a relevant role in the economic activity. Third, PEMEX, PETROBRAS and PDVSA have the major sales in the region (América Economía, 2014) and are important sources of income for its countries.

Moreover, the importance of oil sector in the national and international arena has led, in many countries, to state intervention in the national oil sector through the creation of State companies, because the oil is considered and strategic asset for local governments. In addition PEMEX, PETROBRAS and PDVSA show a diversity of strategies and results that reflect several the various objectives of governments and the variety of relationships that they have established with their historical, institutional and even geological contexts (Hernández and Leidenz, 2014). Therefore, it is appropriate to describe the nature of these relationships since the creation of companies and how this relationship has affected its international expansion.

Finally, this paper is organized as follow; first a literature review was carried out in order to understand the internationalization process. Second, the main findings of the multi-case study are presented and finally the discussion of results and conclusion are debated.

## 2. LITERATURE REVIEW

### 2.1. Theories of Internationalization

International markets have a trend to evolve in a fast pace this is why the mentioned companies should consider the latest trends to know how to respond appropriately and be accepted within the international markets. Next, an analysis of the most important theories that explains the internationalization process will be developed.

The international business field has been developed for the past forty years through the legacy and leadership of Dunning and his internationalization theory (Dunning, 1988). John Dunning has contributed with a serie of publications about his Eclectic Paradigm Theory, also known as the OLI theory. The "OLI" name comes from the three most important factors which determine the international activities of multinational companies (Eden and Dai, 2010). Moreover, Rugman (2010) explains that in order to develop and grow in the globalized market, in Dunning's theory, the companies have to have an ownership advantage (O), a location advantage (L), and an internalization (I) advantage.

The Eclectic Paradigm states that "the level and structure of a firm's foreign value-adding activities will depend on these advantages to be satisfied" (Rahman *et al.*, 2011). This theory provides a three prospect framework for all companies interested in internationalization. The companies must ensure these advantages have been taken to determine if it is beneficial for them to carry out a foreign direct investment (Dunning, 1988).

According to Eden and Dai (2010) Dunning's theory came from the question "why do firms invest overseas, or more generally, what determines the amount and composition of international production?". In other words, the Eclectic Paradigm is founded on the assumption that companies will only go only do transactions in the international market when those carry lower costs than their internal ones. The main purpose of this theory is to determine if a particular internationalization decision provides to a company more value than other choices available. Mainly all business is focused on having the most cost-effective option while maintain quality and service.

Concerning now the Uppsala Model of Internationalization, it was published for the first time in 1977 (Alserus and Tykesson, 2011). In accordance with Gustafsson and Zasada (2011) this model was considered as one of the primary stage models of internationalization in the modern world and was developed by the Swedish researchers Johanson and Vahlne (1977). The main idea of this model is that a company would gradually increase its committed resources in a particular country according gains experience of the activities performed in that foreign market, likewise states that the lack of knowledge is an obstacle for the companies in going abroad (Nava- Aguirre, 2014). Danciu (2012) explains that the Uppsala Model is an internationalization model which relies on learning and acquisition of knowledge. Johanson and Vahlne (1977) developed this theory assuming that the absence of knowledge of a company plays a huge obstacle in the development of international business (Gustafsson and Zasada, 2011). According the company acquires knowledge and expertise; more obstacles can be surpassed, which means that companies have to develop both to the inside of your organization.

The Uppsala Model has been developed during the past decades. In its newest upgrade, Johanson and Vahlne propose four stages that better explain how is that the learning affect the environment of the company. The four stages consist in: (1) the knowledge and opportunities that the company can detect in the international environment, (2) the relationship commitment decisions, (3) the learning, creating and test-building, and finally (4) achieving the acquisition of a position in a network (Alserus and Tykesson, 2011). The network position was one of the latest actualization to this model in the past years. The reason is due to the increasing globalization and new communication and technology information. Nowadays, companies have to learn and adapt to this new method of doing business.

## 2.2. Empirical Evidence

The table 1 show some studies identified in the literature where included state multilaterals. Some studies have centered in PETROBRAS . On the other hand has not been identified some papers about PEMEX and PDVSA. The research design of these papers are based in qualitative approaches (Cases of study). In conclusion a comparative study of these firms has not been identified in the literature.

## 2.3. The State as Owner

It is common to see that in many countries the state is a shareholder of important companies in several industries, mainly energy and oil. That is why the State fulfill an important role socially and economically (Corral, 2009). However the specific ways by which the State can influence the internationalization process of local firms are still understudied (Finchelstein, 2017). Thus, a question arises that many consider valid, and that generates many debates: should the State assume the role of the entrepreneur or should delegate that responsibility completely to the private sector?

In the literature about the state ownership exists two general beliefs that try to explain the existence of State ownership: first, the economic centered in the market imperfections and the political focused in the control of strategic assets (Cuervo- Cazorra *et al.*, 2014) .Both beliefs assumed that State play an important role in the control of some strategic assets.

In this regard, the State plays an important role as well as leadership role, which helps the public administration not only to define and monitor the achievement of its objectives, but also to allow a line of command with clear responsibilities on the part of the State as owner, of the directorates as long-term strategic instances, and of the senior management as executors of that strategy (Miguel and Oneto, 2014). However, this is achieved when State ownership is structured and carried out correctly. It is then, that is allowed to help contribute to the best performance of a specific industry.

Table-1. Studies that address the multilatinas.

Author	Approach	Studied company	Research Design	Aim	Main Results
Castro-Olaya <i>et al.</i> (2015)	Qualitative	Bimbo (Mexico), JBS (Brazil) and	Case of study	To address to what extent existing firm internationalization theories are suited to explain the internationalization process of multilatinas.	Firm in this sector have assumed unremitting creative adaptation processes to overcome the liabilities of foreignness and emerging-ness while demonstrating speedily reactions to market opportunities and institutional adversities
Dalla <i>et al.</i> (2013).	Qualitative	Marcopolo, Vale, Petrobras, JBS, Odebrecht (Brazil)	Case of study	To understand how Petrobras growth in the internal market and to know how was its advance in the international market.	Its main source of incomes is the Brazilian market but the presence in international markets have growth.
Dantas and Bell (2011).	Qualitative	Petrobras, Vale, Gerdau, JBS (Brazil), FEMSA, BIMBO (Mexico), Ternium (Argentine).	Case of study	To addresses the questions about the long-term co-evolution of capabilities and networks at the heart of latecomer innovation systems, examining the case of Petrobras	The paper demonstrates the existence of accumulative, non-recursive, and self-reinforcing relationship between capabilities and networks. The firm's capabilities at a particular time enabled and constrained the forms of networks that were possible, while increases in capabilities functioned as "entry tickets" to participate in new network forms.
Goldstein (2010).	Qualitative	Petrobras(Brazil)	Case of study	To examine the history of PETROBRAS and its international expansion.	Petrobras' story shows the crucial importance of accumulating technological capabilities to establish a leading international position. The Petrobras experience confirms that the rise of emerging economies is leading to a transformation in global business. Foreign direct investment is driven not only by the exploitation of traditional firm-specific competencies, but also by the exploration of new patterns of organizational innovation and ways of accessing markets

Source: Own elaboration

The State is allowed to act, without being directly involved with the daily operation, which seeks to maximize the value of the company. In the case of oil companies, state as owner can have both positive and negative sides, as

well as strong possession of the companies could affect its internationalization process, and too less could cause a missed control of the possible opportunities.

### 3. METHODOLOGY

Yin (2009) suggest an explanatory approach will be focused on, trying to establish a connection between the internationalization process chosen by the companies and the results that they have gotten from it. The main objective will be deeply describe the internationalization process of the oil companies and shows a proposition based on the case studies and conclusions. The methodology then, will be based on a qualitative line based on the case study method.

The case study method has been strongly questioned by some authors (Venkatraman and Grant, 1986; Stoecker, 1991; Bowen and Wiersema, 1999; Rouse and Daellenbach, 1999) who consider that their prestige is low, and is not usually considered (Martinez, 2006). It has been described that the case study method presents problems of reliability and validity, due to which quantitative methods are basically used in empirical research. Therefore, most researchers using the case study as an investigation method do so under uncertainty.

However, other authors have defended the case study method as a valuable research tool, its greatest strength relies on the fact that it measures and records about the behavior of the people involved in the studied phenomena, while quantitative methods only focus on verbal information obtained through questionnaire surveys (Yin, 2009). In addition, in the case study method data can be obtained from a variety of sources; such as, documents, file records, direct observation, observation of participants and physical installations or objects (Martinez, 2006).

Regarding their purpose, the researches carried out through the case study method can be: descriptive, if the aim is to identify and describe the different factors that influence the phenomenon studied, and exploratory, if through the same factors it is aimed to achieve a rapprochement between the theories inscribed in the theoretical framework and the reality object of study.

Choosing the oil industry in Latin American has the purpose of extending the contributions of a more than growing topic nowadays. Zaroni (2005) described the importance of this subject in terms of global expansion, he states that internationalization in this industry is a strategic long-term investment program aimed at integrating vertically through the direct ownership of assets, exploration and production activities of the oil companies with activities such as refining, distribution, storage of this oil.

The multi case study pursues the development and contrasting of certain explanations in a representative framework of a more general context. Since this study uses multiple case studies of similar companies in industry and size, the data sources used are secondary of public information of PEMEX, PETROBRAS and PDVSA. The development of this paper was structured in three major phases. First research question/objectives were crafted, after a protocol of data collection was developed. Second, the analysis of each company was individually carried out. And third understood a cross-case analysis in which differences and similarities among each comp were studied, and with this develop a set of conclusions. Figure 1 describes these phases.

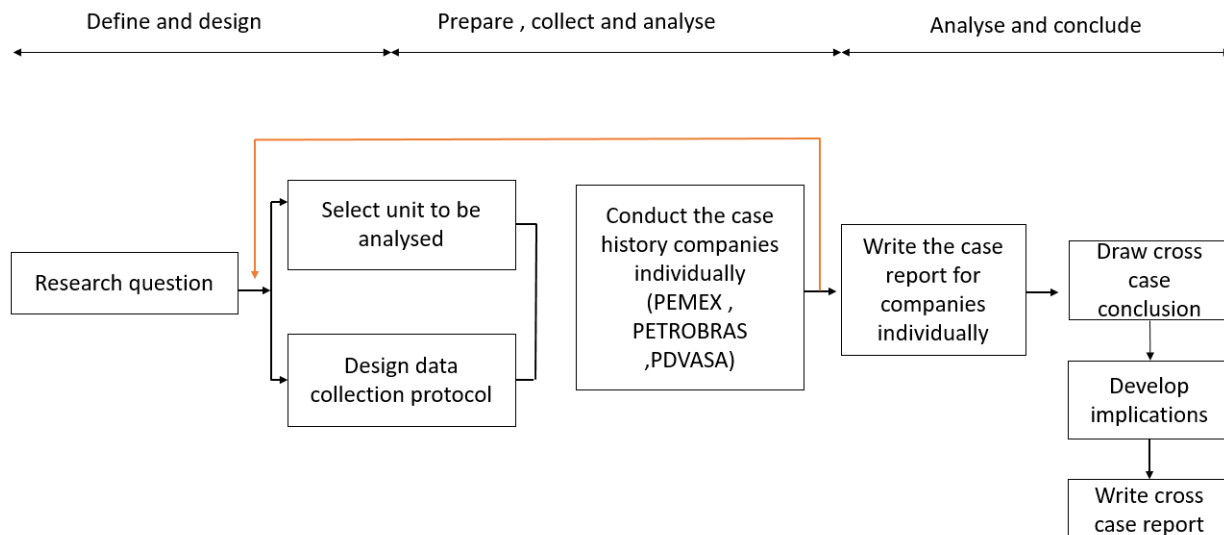


Figure-1. Case Study Methodology

#### 4. FINDINGS

In this section, a case-by-case research is presented through an examination of the process of internationalization that was attempted by the companies. Besides, it gives an individual hypothetical understanding of each case and describes the time line of each company, including the main strategies applied to reach the international market.

##### 4.1. PEMEX

PEMEX was created in 1933 as a State company, this company was aimed to regulate the domestic oil market, produce oil derivatives and train staff (PEMEX, 2015). The company has exclusive rights in the oil production in Mexico. The company has three main business divisions (Exploration and Production, Industrial Transformation, and International Commerce). PEMEX is convoluted with the oil and gas industry, from extraction, processing, and retailing. PEMEX is the only oil retailer in Mexico and had 10,830 gas station in 2014 (Statista, 2016).

Nowadays, PEMEX is one of the leading companies in America and the world in terms of revenue (PEMEX, 2013). PEMEX became one of the most important exporters of crude in 1974 thanks to the discoveries and exploitation of wells. Of importing 6 thousand barrels, it went to export 37 thousand barrels per day. Hydrocarbon reserves stood at 5 billion 773 thousand barrels (PEMEX, 2015). Between 1996 and 2004, crude oil exports rose from 563 million to 683 million barrels a year. In those years the average of exports with respect to total production represented 53.7%. However, natural gas exports were reduced until they were suspended in 2003 (PEMEX, 2013). This was possible thanks to the exports that were implemented between 1996 and 2001, where PEMEX opened markets with the E.U., Chile, Russia, Philippines, Malaysia and North Africa.

In 2005 crude oil production stood at a daily average of three million 333,000 barrels of crude oil, the highest in its history, from which it exported 1 million 817 thousand barrels. PEMEX ranked third as an oil producer (PEMEX, 2015). In 2012 Pemex had total revenues of US \$ 126 billion, the highest level in its history due to the stability of its operating platform and high international crude oil prices, which represented an increase of 28.9% compared to US \$ 98.2 billion 2008 dollars (Excelsior, 2013). With the increase in production, PEMEX reactivated its sales abroad.

Due to the volume of its crude oil and natural gas reserves, PEMEX occupies 14 and 34 respectively in the list of producing countries. Its production (3.4 million barrels per day) ranks sixth in the world, after Saudi Arabia (8.9), Russia (8.8), the United States (5.4), Iran (3.9) and China (3.5) (Álvarez, 2006). By 2005, PEMEX international sales occupied the eighth place with 57.9 million of dollars. On 2013, the US Federal Energy Regulatory Commission



granted the Presidential Permit for the US-Mexico border crossing and for export of natural gas (PEMEX, 2014). Regulatory Commission granted the Presidential Permit for the US-Mexico border crossing and for the export of natural gas (PEMEX, 2014).

Internationally, PEMEX production and reserves are really important. In 2014, Mexico was the 10<sup>th</sup> biggest oil producer in the world, becoming a significant global oil player (Statista, 2016). PEMEX had oil reserves for 9.71 billion barrels on 2015, ranking Mexico as the 17<sup>th</sup> largest proved oil reserves in the world. Concerning Natural Gas, PEMEX had 15 trillion cubic feet by 2015, placing the country on the place 31<sup>st</sup> worldwide regarding natural reserves (PEMEX, 2015). On 2015, PEMEX exported 1.14 million barrels of crude oil daily. PEMEX also exports a huge quantity of petrochemicals, condensates, dry gas and refined products (2015).

Project management continues developing actions to identify the areas of opportunity in the most relevant activities of PEMEX's international investment projects. The organization seeks to remain competitive internationally in the costs of discovery and development, production and transportation (PEMEX, 2014). The last strategies of PEMEX had been to use joint venture with some of the most important and most powerful players on the international level, such as South Africa and China.

One of PEMEX future strategies is to alliance itself with Repsol in Spain. Mainly because a closer relationship with this Spanish oil company will give PEMEX opportunities to expand and explore new production projects thanks to the new joint ventures strategies (Herald, 2015). PEMEX is currently on a competitive rank in proved reserves, compared to international companies, which gives the company a great advantage on future decisions.

Table-2. Internationalization Strategies of Pemex

Year	Entry Mode	Country of Origin	Countries of Operation	Company
1988	Foreign Direct Investment,	European Union, Asia and North-America	United Kingdom, Spain, France, Japan and United States	PEMEX Mercado International
2013	Joint Venture	Singapore	México N/A	Oro Negro Co.
2014	Joint Venture	80 Countries around the world.		Chevron, Shell, Exxon, British Oil, Petrobras, Ecopetrol, Petronas, PetroChina, la empresa nacional Iraní de Petróleo, Cubapetroleo
2014	Acquisition	European Union	Spain, United Kingdom	Apache, Statoil
2015	Merger	European Union	United States, Switzerland and Japan	Ayin-Batsin
2016	Exports	United States	Australia, United Kingdom, Pakistan and Trinidad y Tobago	BHP Billiton

Source: Own elaboration based in several sources.

Table 2 shows that in the last 25 years PEMEX has had the trend to internationalize and look different options to develop their activities, for example, exploration and exploitation of new deposits; in addition, important companies have made agreements with PEMEX.

One of their worst mistakes was the nationalist sense that was given after the nationalization of the Mexican oil and its derivatives. Wanting to create something positive for the country and develop good conditions to benefit the society, it only was used to loot the natural resources for many years, having as a consequence, the discomfort of the nation.

Today, the posture has changed; the Mexican energetic resources have significantly diminished. Recent and fresh alternatives are needed, joint ventures, foreign investments to find new processes, and better technology to optimize resources, are some examples of this. To embrace and penetrate new markets, better conditions for the improvement of the sector and fresh ways to internationalize have to be implemented.

During the twentieth century, Mexico had a little bit more than four decades living as a nationalist country, which results were not as expected being not favorable, having as an outcome the high opportunity cost by privatizing itself from businesses and technical experiences, instead of engaging new markets and learning first class know-how techniques, that could have as a consequence a big boost in their growth. The essential action to take now is to take care of the national sovereignty without protectionism, attached to the Mexican law but with the basic international norms.

#### 4.2. PETROBRAS

This company was founded in 1953 by President Getúlio Vargas, with the aim to undertake the oil sector activities in Brazil. The foundation of PETROBRAS was the outcome of the popular campaign that started in 1946 (Petrobras, 2016). The Duque de Caxias Refinery (REDUC), which is biggest refinery of PETROBRAS, was established in 1961. It was the first refinery to be built and it produces base oils for lubricants, diesel, gasoline, LPG, naphtha, aviation kerosene, and others (Petrobras, 2016).

From 1968 PETROBRAS had already reached a huge Latin-American recognition and it was starting its expansion on the global scenario. The high level of research and development in the company established it as the company with most patents on this industry worldwide (Petrobras, 2016). Nevertheless, by the 1970s members of the Organization of the Petroleum Exporting Countries (OPEC) rose oil international prices substantially, triggering an “oil shock”. The consequence was a troubled market and uncertainty regarding the future of PETROBRAS, which managed to get out of the difficulty by supply guaranteed and cooperation with other nations and thanks to the national reserved of the Brazilian market (Bernal, 2005). Furthermore, in the following years, new measures were taken, such as reducing the consumption of oil and trying to increase the internal supply. After a decade, PETROBRAS started an Alliance with U.S.A in 1990 and was awarded as the company that contributed the most to the technological development of the offshore industry (Petrobras, 2016).

Considering that the company was also awarded for its important contribution to production technology, the Latin-American market was the best chance for creating new joint ventures and increases the position of the company (Petrobras, 2016). Moreover, foreign direct investment was essential for PETROBRAS to develop even further. Between 1994 and 1995 PETROBRAS intensify its relationship with two Latin-American countries: Venezuela and El Salvador, and use this alliance to empower a new business relationship with Iraq, China, Nigeria, Angola and Algeria (Bernal, 2005). However, having an investment with the Asian region gave PETROBRAS the opportunity to start an export collaboration with Yemen and China, which were representing growing economies which could open a new window of business and oil trading relationships.

In 2003, new strategic planning was created, with a medium- and long-term vision and short- and medium-term business plan. There was a huge emphasis on exploration and production projects in the country and in the outside (Sauer, 2008). From this strategy, the first action was to create a joint venture with Mexico and start new direct foreign investment in Bolivia and Paraguay through the Baspreto Company.

As explained by Bernal (2005) there was a great interest to grow the company at a global level. An internationalization of the energy sector in Brazil was then created by exporting oil to some of the EUA countries by the end of 2004. However, the economic crisis also affected PETROBRAS, which contributed to the company seeking self-sufficiency practices in oil, with its own investments and in association with other transnational oil companies. By 2006, PETROBRAS started a stronger business association with the Asia region, through a direct investment that created the company Chemicals Energy.

On the couple of years that follow, PETROBRAS kept on focusing on the countries which could bring the company a benefit in a long term period and stronger presence worldwide. The strategy was based on creating a cooperation system among Central and Latin-America, having a mixture of joint ventures and direct investment between Brazil and Cuba, Uruguay, Venezuela, Peru and Equatorial Guinea (Sauer, 2008). Moreover, the joint



venture strategy also started to work beneficially through cooperation with the African countries. According to Petrobras (2016) there was an undertaken 50-50 fusion formed in 2013, focused on the management of oil and gas exploration and production within Mozambique, Senegal, Tanzania, Libya and Angola.

**Table-3.** Internationalization Strategies of PETROBRAS

Year	Entry Mode	Country of Origin	Countries of Operation	Company
1994 to 2004	Foreign Direct Investment	Bolivia and Argentina	Brazil and Bolivia	N/A
1999	Merger	Oceania	India, Nigeria, Angola, China, Venezuela and Ecuador	Baspetro
2008 al 2017	Joint Venture	Venezuela, United States and the Caribbean.	United States , Colombia and South-America	ENI, Total, Conoco Phillips and Chevron Texaco
2010	Joint Venture	Uruguay	Brazil, Uruguay and Paraguay	Exxon mobil and BP
2011	Exports	South-America and Africa	Argentina and Paraguay	Electrobras
2013	Joint Venture	Angola	Mozambique, Nigeria and Tanzania	BTG Pactual
2014	Joint Venture	Brazil	Paraguay and Venezuela	Itaipú
2014	Joint Venture	Argentina y Bolivia	Bolivia, Argentina and Colombia	Transpetro
2015	Acquisition	Peru and Brazil	Chile, Peru and Bolivia	Petroandina

Source: Own elaboration based in several sources

The Table 3 shows the main internationalization strategies of PETROBRAS. In almost all cases, PETROBRAS has made agreements with State companies or other multinationals to achieve a wider presence in terms of the oil market. PETROBRAS made joint ventures to access the know-how and knowledge of the international market, carrying out commercial agreements with local partners. The joint venture strategy helped PETROBRAS to share its expertise and implement new innovative ways of development mainly in Latin America.

Other agreements allowed the company to seek gaining international recognition through mergers, and thus, gain the opportunity for selling Brazilian oil in other countries. Also it served as a basis for other negotiations and to expand its activities internationally with the borders of the allied country (Dalla *et al.*, 2013). As the years went by, the company developed a much bigger experience and was able to acquire other companies, opening its marketing possibilities in Perú, Chile and Bolivia, through the Petroandina enterprise.

PETROBRAS is a Brazilian company that initially began activities with a combination of State ownership as well as private ownership, although since the beginning the foreign investing in the company was a landmark. Under this scheme, it is easy to understand why they have not had much conflict at the time of opening their borders and maintaining good agreements and treaties at the international level within the industry of an energy product like oil and its large amount of products that are derived from this fossil oil.

The hydrocarbon industry is very vast in products, but one of the main reasons of the company's growth in recent years has been the use of technology in exploration and oil production in open water (off shore) to the point that it is recognized worldwide as the number one company in off shore production and has the largest off shore production plant of crude oil in the world.

Thanks to its negotiating capacity PETROBRAS is one of the five strongest companies in the global oil industry and the fourth within the companies of this sector. Their major clients are located in Latin America, to the point that they overcame the Mexican company PEMEX and Venezuelan PDVSA.

PETROBRAS has assets, offices and representations in Brazil, Uruguay, Bolivia, Chile, Peru, Colombia, Venezuela, Cuba, Mexico, USA, Netherlands, Norway, England, Libya, Angola, Portugal, Nigeria, Mozambique, Tanzania, Iraq, Madagascar, Trinidad and Tobago, Pakistan, Iran, India, Japan and China, among others. It's a reality that in the past years PETROBRAS has been increasing their negotiation actions between countries not only in the benefit of PETROBRAS but also for their partners.

#### 4.3. PDVSA

PDVSA is the State company in charge of governing all aspects related to the exploration, extraction, refining and trade of the oil resources from Venezuela. Although its current structure is relatively recent, the figure of executing agency for oil activities has existed for more than 40 years.

In February 1974, the Foundation for Research in Hydrocarbons and Petrochemicals was installed. This was what opened the path to what today constitutes the center of scientific research and technological support of Venezuela's national oil industry. In 1976, still maintaining the legal figure of the foundation, its name was changed to Intevep and PDVSA became its sponsor (PDVSA, 2016). In June 1979, Intevep was incorporated as a trading company, a subsidiary of PETROBRAS, which allowed the adoption of policies and administrative activities aligned with the corporation.

In the early 1980s, as the world oil demand declined as a response to prevailing high prices, the basket of crude oil and Venezuelan products averaged about \$ 30 per barrel (in today's dollars we would be talking about an average of 75 per barrel) (PDVSA, 2016). Under these circumstances and in an effort to stabilize the market, OPEC began to implement its quota system.

PDVSA, for its part, took the opportunity to start its internationalization policy through a program of acquisition of refineries and other facilities abroad supposedly motivated due to the need to secure markets for Venezuelan oil. As a result of this process, PDVSA acquired 23 refineries and 3 storage terminals in 8 countries of the world, which represented an exorbitant expenditure of 6.5 billion dollars and constituted a tax evasion mechanism (PDVSA, 2005). In this situation, the government of Jaime Lusinchi ordered the suspension of the internationalization program in 1984, because it perceived its cost as very high and its benefits as too uncertain. However, the deterioration of the oil market from 1985 gave a new reason to continue with the internationalization program (Boué, 2004).

According to Boué (2004) in 1986, PDVSA acquired a shareholding in five refineries located in the United States, Sweden, and Belgium, and leased the Curacao refinery from the government of the Netherlands Antilles, thereby increasing its refining capacity outside Venezuela by almost 600 MBD. One of the biggest benefits for PDVSA was the cooperation with U.S., where the direct investment between these countries created the Chevron Company and allowed PDVSA to increase its selling and positioning worldwide (PDVSA, 2005). By the year 2004, 10 additional refineries became part of the internationalization program, which now covers 19 refineries located in the United States, the Netherlands Antilles, the US, Virgin Islands, Germany, Sweden, Belgium and the United Kingdom. In 2005, the refining capacity available to PDVSA outside Venezuela was close to 2 trillion dollars (Boué, 2006). Afterward, by 2007, PDVSA detected that there was an increasing potential business opportunity with the Asiatic countries, and through the Toledo Group, a foreign direct investment was developed between Venezuela and China, Japan and Singapore.

Through the next years, PDVSA focused on strengthening the relationship with the European Union, in order to provide better conditions for the exportation of Venezuela's oil products to all European countries. Furthermore, a joint venture was created with India, using again Chevron as a created company for this new region (PDVSA, 2016). In order to establish a good relationship and procedures based on legal standards, the Organic Hydrocarbons Law was created to prevent the nation's tax revenue from suffering from the integration of exploration and

production activities. These activities include transportation, refining and marketing activities both inside and outside Venezuela (PDVSA, 2005).

Table-4. Internationalization Strategies of PDVSA

Year	Entry Mode	Country of Origin	Countries of Operation	Company
1998	Joint Venture	United States and Germany	United States, Latin-America and Europe	N/A
2001	Foreign Entry	Europe	United States, the Caribbean, Germany, Sweden, Belgium and United Kingdom	N/A
2004	Foreign Direct Investment	Netherlands and Curazao	Belgium, Sweden and Netherlands	Propernyn BV
2005	Joint Venture	Great Britain	Netherlands	Briggs Oil Ltd
2007	Foreign Entry	USA	United States and Latin America	N/A
2010	Merge	Venezuela and Asia		Bahamas Oil Refining Company International
2013	Joint Venture	Lemont, Curazao and Bonaire	United States	Citgo Corpus Christi, Citgo Asphalt Paulsboro y Savannah, Nynäs Gotenburgo y Nynäshäm
2015	Joint Venture	Venezuela	Asia, Europe and Latin America	Lyondell-Citgo Houston, Uno-Ven Lemont, Chalmette Refining Chalmette).
2016	Joint Venture	Brazil	United States and Central America	Venenu y PDV Holding

Source: Authors' based on PDSVA internationalization process through years.

As is shown in Table 4 among the main advantages of the strategies of internationalization of PDVSA have been found that they choice the entrance to a new market in many occasions merging the knowledge of the other company in a complementary way, through Joint Venture. PDVSA implemented an entry to new markets in its continent and also worldwide, with a decrease in the necessary costs for doing it. Through this strategy, another advantage was the elimination of potential competition, while trying to create an alliance with similar companies which in the future could have represented a competitive risk (Aparicio and Mateus, 2012).

According to Morgan and Constantine (1997) foreign direct investment is considered one of the main benefits of globalization, since the recipient countries will take advantage of the technology of more developed countries, get capital formation and benefit from the transfer of knowledge. In the case of PDVSA, this internationalization process was a huge strategical methodology to enter in the European market and expand its business. Moreover, it gave the company the resources to develop into other countries and enter in the market through a foreign entry.

Since the mid-1970's, PDVSA began to realize that in order to penetrate a high level of technology and competitiveness in an international level, was essential to open up to international markets, which made it a fundamental requirement to make some changes in its national constitution and generate a new philosophy in the energy sector, particularly in the oil sector.

The United States of America and Germany have been predominantly the nations that have turned their attention to the Venezuelan energetics, and this was evidenced by some negotiations at the end of the last century. However, the position of the Venezuelan government was focused on finding other fields of action, and in this way observed the horizon of possibilities in the European Union, particularly in Germany, where large investments were injected through foreign capital, directly they acted in favor of the research, development and implementation of different programs and technological processes to optimize the oil resource.

PDVSA's commercial and business relations in the oil area were mainly focused on the first decade of the third millennium to Netherlands, followed by Central and South America as well as codependency toward USA is a reality. It is observed that it is from the new millennium when the company was reorganized to create different agencies responsible for regulating, supervising and contracting activities at international and international level, entering above all the Asian market where it has created a joint venture that Offers many resources and benefits for both Venezuela and Japan, with ethanol as the main input.

The Venezuelan government has gone from possessing under the complexity of the nationalization of the oil energy, to transforming its way of acting and its negotiation focused on an oil opening that although limited by a government very authoritarian and suspicious of its sovereignty, continues to advance in the Land of the commercial agreements, joint venture, the investment of foreign capital directly and indirectly.

The traditional internationalization theory states that in the first international commitment, companies rely on their experience in the market, making gradual adjustments. To the extent that you have more international experience, planning systems are established to formalize the processes of strategic analysis and information research (Zavala-Gutiérrez, 2015).

#### 4.4. Comparing the Studied Companies

In the analysis of situation of each of the three companies, the similarities and differences arise. In a first stage PEMEX seeks to make an alliance with countries of Europe, while PDVSA comes out to guarantee markets in the central countries. On the other hand, PETROBRAS seeks reserves to supply its deficient domestic market. From the turn of the century, Venezuela began withdrawing funds from the central countries, betting on the dialogue between governments to advance energy integration and get markets for PDVSA as part of its foreign policy.

Petrobras, on the other hand, performs a vertical integration of its international operations through the acquisition of Latin American energy companies in sectors as diverse as electricity generation, petrochemicals and gas and electricity household distribution, while increasing its position in the gasoline market (Mansilla, 2008). Nevertheless, Hernández and Leidenz (2014) explain that the three largest companies in Latin America are experiencing their worst moment due to the persistent drop in crude oil prices. After decades of growth and expansion, the swing turned around and today the three giants face a very complicated reality that has even put in serious trouble to the reporters who depend on their income.

For these companies, the situation changed dramatically in the last two years because of the collapse in crude oil prices, which crossed all their accounts internationally. Today they present numbers in red in their balance sheets, they have historical losses and, as if that were not enough, they suffer corruption scandals, problems of project overcharges and inefficiencies (El Economista, 2016).

Table-5. PEMEX, PETROBRAS and PDVSA: Operating and Financial Performance

Company	PDVSA		PEMEX		PETROBRAS	
	2002	2012	2002	2012	2002	2012
Production per employee (barrels per day)	74,6	26,1	26,1	19,3	31,8	25,7
Financial debt / assets (%)	15,0	18,3	32,6	38,9	27,4	28,9
Rairg/income (%)	21,7	37,6	59,1	58,0	30,0	12,0
Net income (loss) / income (%)	6,1	3,4	-5,0	0,2	10,2	7,6

Source: Authors based on Hernández and Leidenz (2014).

As is shown in Table 5, there is a clear picture of how the situation has been getting worse for these companies. However, today a bigger problem is adding to the situation, considering that oil prices remain below \$ 40 a barrel. Companies must face harsh adjustment processes to reverse bad balances and become competitive again. Resuming

the road will not be easy, but a stronger rely on their internationalization processes will be one of the easiest strategies to overcome this situation.

Table-6. Exports as percentage of sales

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average
PDVSA	94.9%	97.5%	96.9%	96.90%	98.2%	98.2%	ND	97.6%	104.5%	<b>98%</b>
PEMEX	48.5%	47.8%	48.7%	44 %	45.1%	45.1%	ND	39.8%	42.8%	<b>45.2%</b>
PETROBRAS	15%	14.1%	21%	11.7 %	14.2%	17.6%	ND	16.1%	10.8%	<b>15%</b>

Source: Own elaboration with data of America Economía several years.

The table 6 shows the exports as percentage of sales, a measure of internationalization broadly used in the literature (Sullivan, 1994). As we can see the highest average was obtained for PDVSA. This fact is important since is an indicator that PDVSA sales the major part of the oil abroad and reflects a contradiction with the speech of the Venezuela government. On the other hand PETROBRAS sales its production mainly to the domestic market, maybe because Brazil is the biggest market in Latin America. It is important to point out that is important to use another indicators in order to measure internationalization for example: personal abroad, number of subsidiaries abroad and foreign assets as percentage of total assets.

## 5. DISCUSSION

In countries like Mexico and Venezuela, the productivity of the deposits favored a rapid extraction of crude oil and the initial interest in developing the industry, which created opportunities for attracting an international market (Hernández and Leidenz, 2014). Part of the management differences between PDVSA and PEMEX are explained by the way in that the nationalization process was carried out. In Brazil, where oil extraction potential was limited, PETROBRAS objectives were different and the imposed management model gave greater autonomy.

Given the institutional environment during its creation, encouraged the development of competencies and an integrated operation and with innovation and technological development. According to Buckley and Casson (2014) there are favorable and unfavorable elements in the management of each company and its relation with the development objectives of the countries of origin and countries of expansion. A great interference of organs of power in the operations of the companies has affected their productivity, even though the objectives of the State and the oil company are aligned. On the contrary, as explained by Danciu (2012) a context of greater autonomy can favor the development and efficiency of oil companies, providing more opportunities for expansion and growth in the global market.

Fagerberg and Srholec (2008) states that the opportunity for companies in this industry to achieve stability and achieve global leadership depends basically on four factors: a) the growth of technology and the know-how that is possible thanks to the diffusion of Technology within each country; (b) the investment of each country in research and development in different business sectors; (c) the growth of the physical production equipment, transport equipment and infrastructure that allow companies to make better use of Tools offered, and d) the growth rate of demand. These components, used as a strategy of international competitiveness, will allow the three companies to create a more competitive landscape for themselves (Fagerberg and Srholec, 2008).

## 6. CONCLUSION

The State as owner is an important topic in management literature (Cuervo- Cazurra *et al.*, 2014). For this reason the main aim of this paper is analyze the internationalization patterns of the main state multinationals: PEMEX, PETROBRAS and PDVSA. The internationalization patterns of these firms are understudied in literature.

In the case of the internationalization of these companies in all the cases there is the common denominator of having to make extensive studies, trade agreements and treaties that integrate the entire set of elements to facilitate investment and international relationships in the medium and long term, always taking care to be present in major markets worldwide in both refining and distribution activities, marketing and product storage.

Moreover, these companies have carried out important FDI abroad. This is an important fact due to the benefits that have for the countries that invest. In addition these firms commit important amount of capital and resources that are controlled for them, for example: employments, infrastructure and knowledge transfer.

According to the internationalization theories, the theory that is suit to the internationalization patterns is Uppsala model. In this regard was identified that in the three cases the internationalization is gradual process as state the [Johanson and Vahlne \(1977\)](#). However the companies have accelerated go abroad, for example PEMEX in only three years have carried out important FDI and alliances abroad.

Also was identified in that the trend of these companies is look for partners abroad, in order to develop exploration projects and specific production business. The main goal of this companies is the exchange of knowledge in petrochemical, supply methods of this raw material and innovative practices refining to make more productive and efficient operations. All this with the intention of increasing rates of participation in international projects, to thereby locate a place to purchase inputs more affordable, as well as the construction of refineries and partnerships with companies that already have established distribution channels.

In other words, all companies have to dedicate its internationalization strategies to seek for a rational process where they can rely their own competitive advantages and perform more research and investigation in strategical markets to achieve strong international positions on a middle time period.

Likewise the internationalization patterns used for the companies are similar, they use mainly exports, joint venture and FDI. In this regard, these patterns are similar to other private multilatinas as: América Movil, CEMEX and GRUMA ([Zavaleta- Vazquez and Wise- Lozano, 2016](#)) this means that at least in the way that go abroad are similar State and private multilatinas.

The main difference between PEMEX, PETROBRAS and PDVSA is the place where they go abroad. PEMEX mainly focus its international operations in Europe and USA, PDVSA, go mainly USA and Asia and PETROBRAS go to Latin America and Africa. These findings are important due to these companies have learned to operate in regions with adverse business environments as Africa and Latin America. In addition these companies have learned to operate in the developed world (USA and Europe) developing capabilities that have boosted its internationalization process.

In summary, it can be seen that the oil industries have a new vision for the future, and companies are doing everything in their power to remain or to become organizations of global importance and influence. However, it must be taken into account that there is a great sacrifice and large investments necessary to modify the structure of the competitive advantage of each nation and the way in which they manage their oil resources. The most appropriate internationalization strategy is the one that proposes structural integration at a global level, giving benefits to both the company and its energy sources.

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