



**North American and European Plastic Equipment Processing Companies' Relationships  
with Andean Markets.**

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## North American and European Plastic Equipment Processing Companies' Relationships with Andean Markets.

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### KEY WORDS

*Firm Internationalization, Global mindset, Plastic machinery, Uppsala model, cultural distance, Uncertainty and Risk, Modes of Entry MOEs, Injection molding, Case Studies.*

### ABSTRACT

The purpose of this investigation is to establish why North American firms, specifically, plastic processing machinery firms, don't have aggressive strategies to improve their performance in Andean countries while the European competition has a better attitude towards developing local operations. The document presents the main theories that might explain why North American firms seem to be less interested in Andean Markets. The main contribution consists of interviews with North American and European senior executives with decision-making and managerial responsibilities in Andean markets. The interviews illustrate findings and behavior patterns that support the author's hypotheses. The conclusions of the study can be used to suggest possible similar studies in different industry sectors and to verify whether this is an industrial or cultural phenomenon.

### INTRODUCTION

In an increasingly competitive and globalized market, companies have to confront the decision to sell their products and services outside of their own country's frontiers or domestic market. This decision to internationalize is the result of a series of decisions (Johanson & Vahlne, 1977) that do not always result in a new company entity or organization. Furthermore, there are some markets

which companies consider unattractive to start-up local operations by means of subsidiaries and/or production plants. The Andean markets represent great potential for growth for American firms, given that in some countries such as Colombia, Chile, and Peru, the plastics industries are solid, and because historically, North American firms have not had strong presence in these locations in comparison to their European counterparts. The long term problem is that North American firms are losing presence and participation in these markets, whose geographic presence, we argue, is strategic. Tables 1 and 2 provide important information regarding plastic processing equipment; principally for the tariff positions 847710 and 847720, for 2014 and 2015 in those countries catalogued as having strong economies in the Andean zone. It is evident that European firms have had a better performance and participation in these markets in contrast to firms from the USA and Canada, which for the purpose of this study are grouped together as North American firms.

**Table #1. Market share of injection molding machinery in Colombia – Peru – Chile 2014 and 2015**

| <b>2014</b>                          | <b>Colombia</b> | <b>Peru</b> | <b>Chile</b> |
|--------------------------------------|-----------------|-------------|--------------|
| <b>Market imports (US\$ Million)</b> | 29.3            | 21          | 20.9         |
| <b>Canada + USA (Market Share %)</b> | 16.8%           | 7.2%        | 14.0%        |
| <b>Europe (Market share %)</b>       | 28.1%           | 31.7%       | 66.5%        |
| <b>2015</b>                          | <b>Colombia</b> | <b>Peru</b> | <b>Chile</b> |
| <b>Market imports (US\$ Million)</b> | 30.2            | 8.5         | 9.9          |
| <b>Canada + USA (Market Share %)</b> | 28.8%           | 1.7%        | 1.7%         |
| <b>Europe (Market share %)</b>       | 24.7%           | 30.4%       | 56.2%        |

**Table #1** – Own elaboration with data retrieved by (Legis S.A. , 2015)

*Note:* Domestic production is almost null for plastic processing equipment, especially for injection molding machinery. Reason why market size is mainly defined by imports for plastic processing equipment. Data for Peru is only available until September 2015.

Considering extrusion, the second most important equipment in plastics processing, one can note the participation difference in the Andean markets is even more significant as evidenced by the greater presence by European manufacturers.

**Table #2.** Market share of extrusion machinery in Colombia – Peru – Chile 2014 and 2015

| 2014                                 | Colombia | Peru  | Chile |
|--------------------------------------|----------|-------|-------|
| <b>Market imports (US\$ Million)</b> | 18.8     | 14.5  | 14.7  |
| <b>Canada + USA (Market Share %)</b> | 4.3%     | 15.8% | 10%   |
| <b>Europe (Market share %)</b>       | 58.0%    | 24.7% | 64.9% |

| 2015                                 | Colombia | Peru  | Chile       |
|--------------------------------------|----------|-------|-------------|
| <b>Market imports (US\$ Million)</b> | 18.0     | 3.4   | <b>12.3</b> |
| <b>Canada + USA (Market Share %)</b> | 9.3%     | 1.2%  | 3.3%        |
| <b>Europe (Market share %)</b>       | 64.5%    | 34.9% | 42.8%       |

**Table #2** – Own elaboration with data retrieved by (Legis S.A. , 2015)

**Note:** Domestic production is almost null for plastic processing equipment, especially for injection molding machinery. Reason why market size is mainly defined by imports for plastic processing equipment. Data for Peru is only available until September 2015. Other origins with important participations (Asia) are not considered in this study.

The Andean countries represent significant potential for growth for plastic processing equipment firms, not only in a marginal way (the marginal concept meaning: by way of agents or sales representatives) but by establishing strategic alliances or direct operations. To define the initial potential of the Andean markets, we have taken GDP growth projections, and contrasted them with data from countries that are traditionally producers of plastic processing equipment, such as USA, Canada, Germany, Austria, Italy and France. Growth projections for the countries studied, determined in consensus by institutions such as BMI Research, Capital Economics, Citigroup, Focus Economics, Frontier Strategy Group, J. P. Morgan among others, are compiled in Table No.2. There is evidence that various Andean and Southern Cone countries such as Colombia, Peru, Uruguay and Paraguay represent an opportunity for European countries with lower growth projections. As a matter of fact, the economic situation in Europe in 2015, together with the low growth projections for the following years has compelled European firms to consider emerging economies in order to obtain long-term results and sustainability as required by those organizations.

**Table #3. GDP growth projection (% of Change) for Latin American economies.**

|                  | 2016  | 2017  | 2018  | 2019 | 2020 |
|------------------|-------|-------|-------|------|------|
| <b>Argentina</b> | 0.34  | 3.07  | 1.20  | 1.50 | 1.50 |
| <b>Bolivia</b>   | 3.84  | 3.97  | 4.20  | 4.0  | 4.0  |
| <b>Brazil</b>    | -2.58 | 1.01  | 1.50  | 2.20 | 2.50 |
| <b>Chile</b>     | 2.30  | 3.04  | 3.0   | 3.20 | 3.40 |
| <b>Colombia</b>  | 3.80  | 4.20  | 4.30  | n/a  | n/a  |
| <b>Ecuador</b>   | -1.11 | 1.55  | 2.50  | 2.90 | 3.10 |
| <b>Peru</b>      | 5.0   | 5.60  | 5.50  | n/a  | n/a  |
| <b>Uruguay</b>   | 5.0   | 5.60  | 5.50  | n/a  | n/a  |
| <b>Venezuela</b> | -4.0  | -2.50 | -1.50 | n/a  | n/a  |
| <b>Paraguay</b>  | 4.12  | 4.25  | 4.20  | n/a  | n/a  |

GDP growth projection (% of Change) for industrialized countries supplying plastic processing equipment.

|                    | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------------|------|------|------|------|------|
| <b>Germany</b>     | 1.60 | 1.60 | 1.40 | 1.30 | 1.10 |
| <b>Austria</b>     | 1.60 | 1.50 | 1.50 | 1.50 | 1.50 |
| <b>Canada</b>      | 1.50 | 2.20 | 2.10 | 2.00 | 2.00 |
| <b>Italia</b>      | 1.20 | 1.30 | 1.10 | 1.30 | 1.20 |
| <b>Japan</b>       | 0.90 | 0.70 | 0.90 | 1.10 | 0.90 |
| <b>Switzerland</b> | 1.30 | 1.70 | 1.70 | 1.60 | 1.60 |
| <b>USA</b>         | 2.20 | 2.40 | 2.20 | 2.20 | 2.20 |

**Note:** Table #3 – Author’s own elaboration with data supplied by EMIS Intelligence and Passport data base. Projection consensus % GDP for Latin American Economies and some main countries that supply plastic processing equipment in 2015. (EMIS, Emerging markets information service, 2014) And (Euromonitor International, 2016)

Recognized European companies in the area have their own sales and post-sales servicing in countries such as Colombia, Peru, Argentina and Chile. Conversely, North American firms continue with lower risk traditional entry structures or models, such as agents or sales representatives in these countries. Entry models by way of agents, means that in the long-term, firms lose control and strategy, and in the same way eventually lose their brand image in a certain country by not having a constant presence finally in these markets.



The hypothesis which the authors endeavor to explore is that North American firms have specific attitudes about Andean markets, because they have a local market (see NAFTA – North American Free Trade Area – USA, Canada, Mexico) which is large in size and whose projections for the coming years are high, thus making them look at Andean markets as a minor and marginal growth opportunity. In order to have a complete image of the North American market, import data has been taken from data bases and recognized industry publications.

In its 2014 fourth quarter report, the Plastic Industry Trade Association, SPI, published equipment sales details for injection, extrusion, blown plastic parts, auxiliary equipment and hot runners at US\$346.1 million. Total sales for equipment in the North American industry are estimated to be US\$1.2 billion (SPI: The Plastic Industry Trade Association, 2015). Market projections for 2016 mention a 2.3% increase in capital good investments and about a 4% total production of plastic products (SPI: The Plastic Industry Trade Association, 2015). The Mexican industry imported plastic processing equipment in the region of US\$673 million, of which 43.5% was equipment of European origin and 17.4% North American (Legis S. A., 2015). Canada, for its part, had imports of about US\$ 441 million of in 2014, of which 37.4% came from the USA, and 17.1% from European countries. In contrast to Mexico, Canada is one of the largest suppliers of plastic processing equipment and molds for the injection market. In 2014, Canada's exports were valued at US\$ 655 million of which 55.9% went to the USA and only about 6% to Latin America countries. With these values, we can estimate the North American market potential to be approximately US \$ 2.3 billion with respect to plastic processing equipment (Innovation, Science and Economic Development, Canada, 2016).

In contrast, the organization of plastic and rubber equipment manufacturers for Europe, EUROMAP, reported that for 2014 total revenue for equipment production for the industry was 13,000 million Euros of which 9,651 million Euros was exported – 74.2% (EUROMAP, 2014). To highlight the idea of the size of the European market and its capacity to export, according to ENGEL (a global leader in the manufacture of injection molding machinery) during 2013, the European industry produced about 12,800 injection machines, of which 7,500 were for the European Union market, 1,900 for export to the Americas (including USA and Canada), and 3,000 for the Asian market (Plastics Today, 2013). North American companies, on the contrary, produced about 1,240 pieces of equipment, of which 900 were for the local market as NAFTA and US, 300 crossing the Pacific to Asia, and the rest (around 40) headed other direction to Europe and Latin America. (Plastics Today, 2013). The organization Plastic Europe notes that the 2014 metric tonnage consumption of plastic in Europe and the USA was 19% and 20% out of the world total of 260 million tons respectively (Plastics Europe, 2015).

With a preliminary idea of the size of the industry both in Europe and in North America, it is evident that both markets are very similar in consumption of plastic material by the final user, but also that the European market and European manufacturers have a greater historical participation in international markets such as Latin America. Could the position of North American firms towards their participation in Andean markets be a question of the size of the domestic market, or could it be that the psychological distance of Canada and the USA from the Andean countries is higher when compared to that of the European countries? One should understand psychological distance as the sum of factors that prevent the flow of information from one market to the next (Johanson & Vahlne, 1977 and 2009). On the contrary, this behaviour could be

associated with a lesser aversion to risk or greater propensity towards entrepreneurship by European firms? These and other questions, are to be answered and explored throughout the contents of this document by means of a theoretical application of the theories of a firm's internationalization, and additionally, to review primary and secondary information sources, such as interviews with directors of plastic processing firms, who have decision making capacity in Andean markets.

## LITERATURE REVIEW

In an increasingly globalized world open to free trade which exposes greater challenges for an organization's sustainability and growth, it seems as if the possible alternative to achieving said growth is via the internationalization of the firm. This should be understood as a set of activities which the firm undertakes to start exporting its products, selling directly or starting to produce the same in other countries. *Companies start this process by exporting to a desired country by means of an agent, subsequently establishing a subsidiary business, and eventually by local production* (Johanson & Vahlne, 1977 and 2009). In recent years, this last case has occurred in the emerging BRIC economies of India, China and Brazil, where the majority of plastic equipment production companies have their subsidiaries, and some local production.

In greater detail, companies – initially multi-national enterprises MNEs<sup>1</sup> enter foreign markets by using external contractors (such as distributors, suppliers, licensed or franchise) or extending the firm by means of its own resources such as establishing subsidiaries. This kind of subsidiary is associated with the resources that the company wishes to invest in the foreign market, be it by sharing the property of the new company in the host country (Joint Venture JV) or by

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<sup>1</sup> MNEs – the English abbreviation for Multinational Enterprises.

having the total property of the new entity (subsidiary WOS<sup>2</sup>) (Brouthers & Hennart, 2007). The latter (between JV and WOS) is the most common in multinational companies. The JV entry mode allows greater control and in turn, greater learning about the market in question— of course, at the expense of a more capital investment on the part of the firm (Cray, 2014). Nevertheless, in the case of this study, the majority of North American plastic and associated processing equipment manufacturers continue opting for alternatives which involve less resource investment, such as sales representatives. This is one of the objectives of this study: to find the reasons for this statement, given that *the selection of the appropriate mode of entry is very important, as it has direct implications on the firm's performance and for the same long term consequences* (Brouthers & Hennart, 2007).

Other investigators have conceptualized the internationalization process of the firm as a learning process, in which companies with a greater entrepreneurship orientation are more agile than multinational companies (Roudini and Osman, 2012). Companies with a high level of entrepreneurship recognize and exploit market opportunities, and learn at a faster rate, thus improving their capacities and start-up decision-making (Butler and Doktor, 2010). The Vahlne & Johanson (1977, 2009 & 2011) models of internationalization suggests that firms begin gaining this individual experience gradually. Nonetheless, some opponents view this model as very static and not in accordance with the actual, aggressively changing markets. Companies need to be continually improving and renewing their capacities (Gray and McNaughton, 2010). It could be suggested that the level of entrepreneurship of a company could influence the speed and

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<sup>2</sup> WOSs – the English abbreviation for wholly owned subsidiaries.

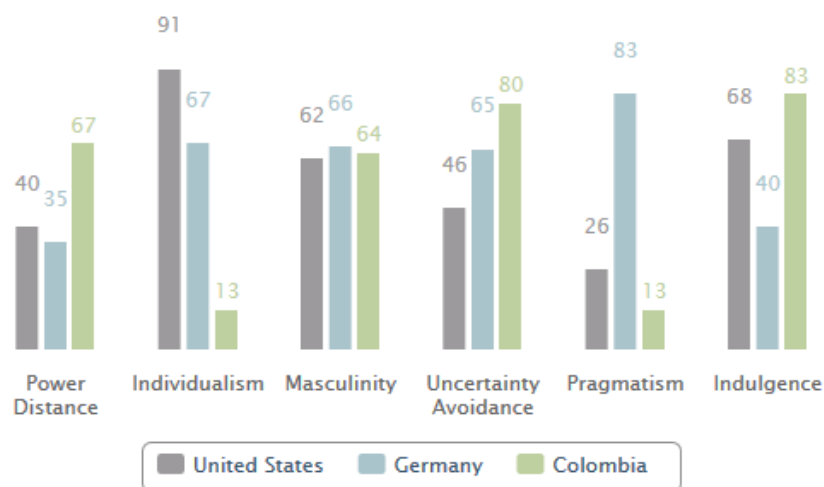
adaptability of exploring a new market and its promptness to leap forward to begin its own operations in those countries to which it wishes to export.

Some models suggest a direct relationship between the global thinking of CEOs and the international behaviour of the companies they lead. *A CEO with a global mind is important for business opportunities and the development of ideas or projects at the international level. This focus allows having a positive impact on internationalization behaviour.* (Kyvik, Saris, Bonet and Felicio, 2013). This impact is very important, taking into account that companies must increasingly face competition in their local or domestic markets, and as a result must try to find new growth opportunities. Nevertheless, companies such as those in Canada (considering the study in regards to small companies) show that their executives have an attitude against exporting, given their conception that their domestic market is sufficiently large enough to generate required revenue with less risk. (Calof, 1993). That would seem to indicate that the reluctance of North American countries to internationalize their operations is due to the natural size of their local market.

Other studies suggest the level of uncertainty dominates the recognition of international opportunities and exploitation strategies. Why is it at this level of uncertainty that some individuals exploit international opportunities while others do not? The answer may lie in the level of entrepreneurship of said individual. (Butler, Doktor, and Lins, 2010). Entrepreneurs are better able to note these opportunities and additionally possess great leadership ability with situations of risk at the level of international entrepreneurship. With the help of tools made available by the Hofstede Institute of Investigation (The Hofstede Centre, 2015), a comparison between countries such as the USA, Germany and Colombia has been undertaken, in order to determine if it can be shown

how aversion to risk can influence the entrepreneurship of those countries in search of other markets; nevertheless, the results show that at a cultural level, North America has much less aversion to risk. Even though these dimensions are based on cultural tendencies at the individual and personal level and not that of companies, they could be an indication that aversion to risk is not a determining factor in the search for new markets.

**Figure #1. Size comparisons, Hofstede Centre Statistics**



**Note:** Size comparisons, Hofstede Centre Statistics – for an Andean country (Colombia), European (Germany), and not applicable (USA). The lower the number, the lower the aversion. **Source:** Hofstede Centre, Cultural Tools, country comparison.

Additional investigations suggested by (Kirkman, Lowe and Gibson, 2006; Tihanyi, Griffith and Russell, 2005) suggest that these dimensions, or cultural values are related to behaviour, attitude and some company decisions. Some findings suggest that as the degree to which the cultural distance between countries increases, companies tend to choose JVs as an entry mode instead of acquisition and merger (Kirkman, Lowe and Gibson, 2006), but as the degree to which there is a larger investment and accordingly risk, companies will choose WOS instead of JVs as a mode. Additionally, some authors suggest that as the cultural distance becomes greater, the amount of foreign investment decreases. (Li and Guisinger, 1992). With relation to Hofstede, there exists a relationship that the greater the Power Distance (PD), the greater the preference for

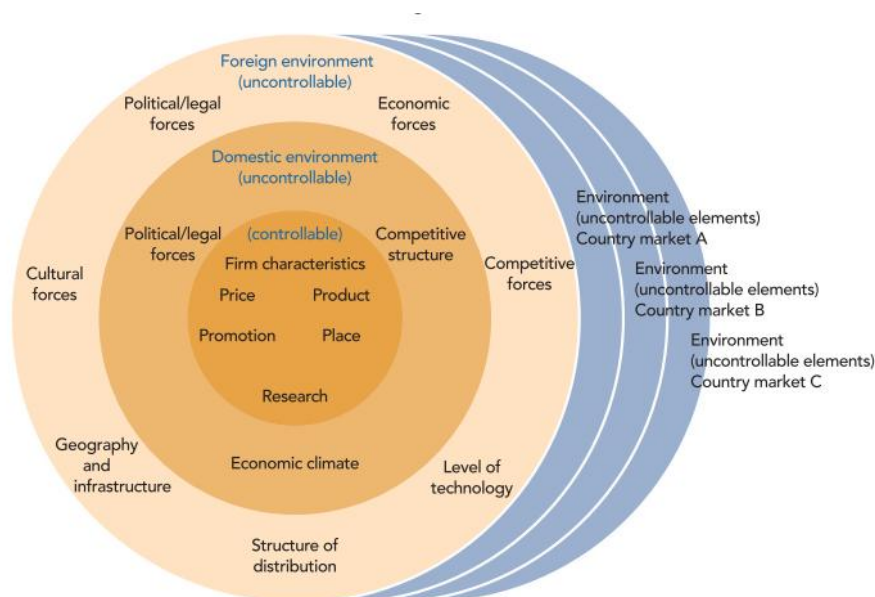
higher investment modes such as JVs, while companies in countries with a high dimension of Uncertainty Avoidance (UA) there is a preference for contracts, agreements; entry models for export, or high levels of subsidiary ownership. *However, competing companies from Germany have a larger investment in subsidiaries in Andean markets compared to North American companies, thus not explaining what is seen in this investigation.* Nonetheless, other findings show firms in countries with a dimension for greater Individualism (IND) are less likely to form entities or alliances; similarly, firms in countries with high Masculinity levels (MAS) are less likely to form technological alliances. (Kirkman, Lowe and Gibson, 2006). Other authors such as Shenkar (2001) relate Uncertainty Avoidance (UA) as the most important factor, above other cultural factors, that determines firm's attitudes towards the options for expansion.

Brouthers & Brouthers (2001) determine the risk for investment in the target market as a regulator between the cultural distance and the mode of entry. The cultural distance is related with entry modes such as WOSs or JVs in European countries, depending on the level of risk in the host country. This risk and investment interaction is the principal point to be considered by company CEOs in making a decision to explore new markets.

Besides the aforementioned factors about the internationalization process, other aspects ought to be considered when making the decision to enter a new market. Psychological distance, known as the sum of the factors which prevent the flow information within markets, such as language, education, business practices, culture and industrial development (Johanson & Vahlne, 1977), is a determining factor for firms to decide which markets to enter. The affinity level found for initial business – meaning the level in which countries share culture or the proximity to their

natural markets – influences which countries to enter. As a company gains greater experience and knowledge, it will begin to venture into other culturally distinct markets. For a market to be studied as well as other future markets, company managers should acquire knowledge not only about possible results in the host country, but also other series of cultural factors, socio-economic figures of the country to which they wish to export. In a globalized environment, one should get to know the cultural aspects of the country of interest such as the way of doing business, political philosophy and economic direction (Rojas, 2014). When considering all these factors that pertain to the markets to which companies wish to export, it should be noted that some of them are not within the firm's control. Good examples are the political aspects such as taxation, commerce regulations (which can make products more expensive), and/or Capital Goods import incentives. There are other logistics aspects such as infrastructure, which can also increase the prices of products, as well as consumer preferences towards goods from the USA and/or Europe. Figure No.2 presents a summary of those aspects in a clear and brief format.

**Figure #2. Factors that intervene in a firm's decision to enter a new market**



**Note** Controllable and uncontrollable aspects for the firm within its domestic market.

**Source:** International Marketing and Trade, Rojas, 2014.



The decision that North American companies enter a foreign market is dictated in great measure by the business atmosphere in the host countries. Aspects such as speed of doing business, regulations, corruption and human capital as well as the stability of the political and business environments are determinants in that decision (Boumphrey, 2014). There are various indicators and/or rankings that are reputable for their measuring of the competitiveness of a country according to various factors. Companies check these indices often to see the general condition of the economy of a target country and to determine the strength or weakness in the business atmosphere, and additionally to determine the required resources in terms of time and money. The allocation of resources combined with time invested to enter a new country, affect a firm's expansion plans. In the following Table No. 4, Latin American country rankings are compiled by three recognized institutions: Ease of Doing Business from the World Bank, The Global Competitiveness report from the World Economic Forum, and KPMG Change of Readiness Index.

**Table #4.** Compilation of competitiveness Index for Latin American countries.

|                  | <b>World<br/>Bank(1)</b> | <b>World<br/>Economic<br/>Forum(2)</b> | <b>KPMG<br/>Report(3)</b> |
|------------------|--------------------------|--|---------------------------|
| <b>Argentina</b> | 121                      | 106                                    | 88                        |
| <b>Bolivia</b>   | 157                      | 117                                    | 106                       |
| <b>Brazil</b>    | 116                      | 75                                     | 59                        |
| <b>Chile</b>     | 48                       | 35                                     | 19                        |
| <b>Colombia</b>  | 54                       | 61                                     | 46                        |
| <b>Ecuador</b>   | 117                      | 76                                     | 60                        |
| <b>Peru</b>      | 50                       | 69                                     | 41                        |
| <b>Uruguay</b>   | 92                       | 73                                     | 40                        |
| <b>Venezuela</b> | 186                      | 132                                    | 110                       |
| <b>Paraguay</b>  | 100                      | 118                                    | 84                        |
| <b>Mexico</b>    | 38                       | 57                                     | 42                        |

**Note: Table #4** – Author's own elaboration with data supplied by World Bank Easy of Doing Business Rank 2016, World Economic Forum 2016, and KPMG Change Readiness Index 2015. (Schwab, Klaus, 2015), (World Bank Group, 2016), (KPMG International Group, 2015)

Subarna and Sanyal (2010) confirm that the Corruption Perception Index (CPI) for one country has a strong incidence in its competitiveness. Considering that North American and European firms can choose where to invest resources, not all countries will be equally attractive in the search for company profits (Samanta and Sanyal, 2010). In this case, corruption affects the possibility that foreign companies invest in countries with the highest CPI index, and directly impedes the incorporation of new businesses (Boumphrey, 2014). Table No. 5 shows the CPI ranking of perception of corruption of the Transparency International Organization for 2015 where it is obvious that Latin American countries have a high ranking which might indicate why North American companies do not take part in those markets. Nevertheless, although a country like Mexico has a high ranking (95 out of 167), it is one of the countries with a greater flow of investment both from North American and European companies, especially in the industry sector being studied – plastic processing equipment.

**Table #5. CPI - The Corruption Perception Index for Latin American countries.**

|                  | <b>CPI<br/>Rank</b> |
|------------------|---------------------|
| <b>Argentina</b> | 107                 |
| <b>Bolivia</b>   | 99                  |
| <b>Brazil</b>    | 76                  |
| <b>Chile</b>     | 23                  |
| <b>Colombia</b>  | 83                  |
| <b>Ecuador</b>   | 107                 |
| <b>Peru</b>      | 88                  |
| <b>Uruguay</b>   | 21                  |
| <b>Venezuela</b> | 158                 |
| <b>Paraguay</b>  | 130                 |
| <b>Mexico</b>    | 95                  |

**Note: Table #5** – This is Author’s own elaboration with data retrieved from (Transparency International, 2015). Countries as Uruguay and Chile have the better ranks within the region.

In the nineteenth edition of its survey of CEOs from more than 1,400 global companies, Pricewaterhouse Coopers shows how these companies view the market potential in the BRIC countries, and additionally the challenges and difficulties they see in introducing their products in said countries. According to the results, nearly 50% of those surveyed see the possibility of doing business in Brazil, but only 30% will consider actually doing so in the next three years. Countries such as China and India continue to have great potential and interest for those surveyed. That perception shows company attitudes of wanting to start firstly with an agent or a strategic partner, in order to know and understand those markets. Lastly, most of those surveyed consider aspects of over-regulation, trade barriers and social aspects such as corruption as great challenges for exporting or commencing a relationship with said countries. (Price Waterhouse Coopers, 2016).

In respect to the size of a new market as being a decisive factor for entry, some studies show that there is a positive impact in the flow of foreign investment FDI (Correia, 2013). This relation is evident in service companies such as banks, insurance companies, and international publicity companies (Li and Guisinger, 1992). Calof (1993) suggests that the majority of firms would have a growth strategy expanding within their domestic market first, but then, at some point when opportunities for growth are seen as limited, the firm will be forced to diversify its geographic market base. The majority of internationalization theories identify industry and product characteristics as factors which influence international activity. For example, companies whose products have a very small domestic market such as Canadian firms, seek international markets by means of exports (Calof, 1993).

### **The potential of Andean Markets in the Plastic Industry**

In order to present the potential of the Andean plastic market, projections about the growth of related industries, which according to the author's experience trigger growth in the industry of plastics, have been taken into account. Evaluating market potential with these future projections would offer European and North American producers a better perspective at the time of making an investment decision. Overall, the Andean market showed strong production across the plastic packaging (both flexible and rigid packaging), appliances, houseware, automobile and construction industries.

The packaging industry is an important source of growth, and it is mainly stimulated by the growth in packaged food products such as dairy, meats, snacks, sauces, dressings, and baby food among others. The majority of these products require both flexible and rigid plastic packaging, which in turn boosts the consumption of multi-layer extrusion production equipment for barrier packages, and also, high velocity and performance injection equipment. In general, the growth potential of the packaging industry in Latin America between 2015 and 2020 is of 2% CAGR<sup>3</sup> (Euromonitor, 2016), which is slightly superior to the growth expected in the United States and countries in Europe. The following table shows: firstly, the growth potential in both percentage and number value of several products whose designs require plastic packaging; and secondly, the consumption of plastic products by type of said products.

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<sup>3</sup> CAGR, Compound annual growth rate measurement. This measurement minimizes the volatility and variations presented year-to-year.

**Table #6. Growing projection for different packed food and plastic products for 2015-2020**

|                                   | <b>Growing<br/>projection<br/>%</b> | <b>Growing<br/>in US\$<br/>Million</b> |
|-----------------------------------|-------------------------------------|--|
| <b>Baby Food</b>                  | 3.9%                                | \$1,044                                |
| <b>Dairy</b>                      | 3.2%                                | \$12,907                               |
| <b>Ice Cream</b>                  | 3.5%                                | \$1,883                                |
| <b>Ready Meals</b>                | 5.1%                                | \$889                                  |
| <b>Sauces &amp; Dressings</b>     | 3.5%                                | \$2,788                                |
| <b>Sweet &amp; Savory Snacks</b>  | 3.6%                                | \$2,856                                |
| <b>Baked Goods</b>                | 2.6%                                | \$8,846                                |
| <b>Processed Meats &amp; Fish</b> | 2.6%                                | \$4,278                                |

|                                 | <b>Growing<br/>projection<br/>%</b> | <b>Growing<br/>in US\$<br/>Million</b> |
|---------------------------------|-------------------------------------|--|
| <b>PET Bottles</b>              | <b>1,9%</b>                         | <b>\$61.5</b>                          |
| <b>Cosmetic Containers</b>      | 2,7%                                | \$83.2                                 |
| <b>Flexible plastic tubes</b>   | <b>2.1%</b>                         | <b>\$283.3</b>                         |
| <b>HDPE Bottles</b>             | 1.5%                                | \$309.4                                |
| <b>Other Plastic Bottles</b>    | <b>3.4%</b>                         | <b>\$132.7</b>                         |
| <b>Flexible packing Plastic</b> | 1.8%                                | \$101.5                                |

**Note:** Table #6 – Author’s own elaboration with data supplied by Euromonitor International Database 2016.

Growth can be seen within the industry of dairy and meats, which in turn represents great potential for companies that produce flexible packaging and also lines of multi-layer extrusion packaging for barrier-bag packages of cast film or blown film. Moreover, the increase in consumption of rigid packaging suggests an interesting potential for companies that produce extrusion or injection blow molding products. Notwithstanding, this growth in packaging products is not homogeneous across Latin America or in particular the Andean countries; there are some countries with greater potential than others such as Peru, Venezuela (high-risk), Chile and Brazil. The following table outlines the growth of packaged goods organized by country.

**Table #7.** Growing projection for packed food/products in different countries

|                  | 2015-16 % | 2016-17 % | 2017-18 % | 2018-19 % | 2019-30 % |
|------------------|-----------|-----------|-----------|-----------|-----------|
| <b>Argentina</b> | 1.20%     | 2.00%     | 2.40%     | 2.70%     | 2.90%     |
| <b>Brazil</b>    | 2.60%     | 2.70%     | 2.60%     | 2.50%     | 2.50%     |
| <b>Chile</b>     | 2.40%     | 2.50%     | 2.70%     | 2.70%     | 2.80%     |
| <b>Colombia</b>  | 1.90%     | 1.80%     | -0.40%    | -0.50%    | 1.20%     |
| <b>Mexico</b>    | 1.40%     | 1.50%     | 1.70%     | 1.90%     | 1.90%     |
| <b>Peru</b>      | 4.10%     | 4.10%     | 4.10%     | 4.00%     | 3.90%     |
| <b>Venezuela</b> | 1.80%     | 3.40%     | 3.80%     | 4,20%     | 4,50%     |

Note: Table #7 – Author’s own elaboration with data supplied by Euromonitor International Database 2016.

Other industries that can drive consumption of plastic parts for assembly are the car automobile and the appliance industries. Product in both industries typically require plastic parts that are manufactured through plastic injection processes. According to Euromonitor 2016, the size of the Latin American market of appliance production such as washers, refrigerators, TVs and smaller appliances is around US\$ 225,375 million, and whose projected growth between 2015-2020 is expected to be around 2.6% CAGR. Small appliances make up 2.9% of that value and are expected a growth potential of US\$ 25,709 million (Euromonitor, 2016). It is important to highlight that there is currently company presence in this type of market, to mention a few: Industrias Haceb (Colombia), Indurama (Ecuador), Mabe (México, and factory presence across Latin America such as Colombia), Whirlpool (US, Joint Venture with HACEB and production presence in México), Groupe SEB (France, and operations in Colombia along with IMUSA) and finally, Industrias Atlas de Brazil.

In regards to the automobile industry, there are several production companies located in Mexico and Brazil. In both countries the industry of plastic injection parts has grown significantly. Although globally there has been a contraction in the car industry growth, Latin America shows

the growth potential in both the assembly of cars and of motorcycles. The greatest expansion is expected in Venezuela after the government crisis, which has been signaled by experts (Leonard, 2016). The following table shows the automobile industry's growth potential in the medium term of 2 - 3 years. It is important to highlight that important brands such as Chevrolet, Renault, KIA, Yamaha, and Auteco, among others, are already present in Andean countries such as Colombia and Ecuador.

**Table #8.** Growing projection for Automotive Industry in different Latin American Economies

|           | 2016 % | 2017 % | 2018 % | 2019 % | 2020 % |
|-----------|--------|--------|--------|--------|--------|
| Argentina | -13.6% | -2.3%  | 6.2%   | 1.2%   | 9.0%   |
| Chile     | -10.9% | -2.7%  | 7.0%   | 7.5%   | 7.7%   |
| Colombia  | 1.6%   | 4.3%   | 4.2%   | 2.0%   | 7.3%   |
| Ecuador   | -0.2%  | 2.0%   | 2.4%   | -2.2%  | -1.1%  |
| Mexico    | 2.1%   | 7.2%   | 6.5%   | 7.1%   | 4.9%   |
| Uruguay   | -25.4% | 2.1%   | 1.1%   | 4.0%   | 1.2%   |
| Venezuela | -25.5% | 19.9%  | 28.4%  | 31.8%  | 8.6%   |

**Note:** Table #8 – Author's own elaboration with data supplied by Oxford Economics 2016, (Leonard, 2016)

Another industry that has great presence in the Andean countries is that of houseware and Home Products. In countries such as Colombia and Peru, this industry is one of the major transformation agents. The size of this industry as of 2015 is of 49,963 million US\$ with a slight growth potential of 0.4% (Euromonitor, 2016). Nevertheless, it is important to mention that plastic processors such as Plasticos Rimax in Colombia and Reyplast in Peru are some of the largest producers in the sector. The following table shows the growth potential for this product niche which is manufactured through the injection process.

**Table #9.** Growing projection for Home furnishing products 2015-2020 for Latin America

|                  | <b>Growing<br/>projection<br/>%</b> | <b>Growing<br/>in US\$<br/>Million</b> |
|------------------|-------------------------------------|--|
| Houseware        | 1.9%                                | \$550                                  |
| Gardening        | 1.4%                                | \$96.5                                 |
| House Furnishing | 1.3%                                | \$435                                  |

Note: Table #9 – Author’s own elaboration with data supplied by Euromonitor International 2016.

Finally, another sector that boosts the plastic industry and the use of extrusion equipment to process PVC pipes such as polyolefin HDPE and PP is the construction industry both at the level of private investment and public infrastructure. For example, in Colombia’s case, the PVC industry has an expected growth of around 3.5% between 2017 and 202 (BMI Research, 2016). In other markets in South American such as in Chile, Peru, and Argentina, the use of PVC rigid piping has been restricted and has given way to a higher growth in polyolefin piping. According to the CEPAL Latin America must invest around 6.2% of its GDP between 2012 and 2020, which is equivalent to around 320,000 million US\$, to close the gap between the supply and demand of infrastructure (CEPAL, Comisión Económica Para America Latina y el Caribe, 2014). The following table shows the market growth potential for the infrastructure industry in South American countries during 2012. It can be seen that PVC processing equipment such as twin screw extruders and turbo mixing equipment shows great potential in countries such as Colombia, and extrusion equipment in Argentina Peru and Chile.

**Table #10.** Infrastructure investment for some Latin America Economies

|          | <b>Investment<br/>% GDP</b> | <b>Investment in<br/>US\$ Million</b> |
|----------|-----------------------------|---------------------------------------|
| Colombia | 2.5%                        | \$9,249                               |
| Chile    | 2.83%                       | \$7,506                               |
| Bolivia  | 4.47%                       | \$1,211                               |
| Uruguay  | 5.08%                       | \$2,610                               |
| Peru     | 4.46%                       | \$8,593                               |
| Brazil   | 4.10%                       | \$100,857                             |



|           |       |          |
|-----------|-------|----------|
| Argentina | 2.89% | \$17,467 |
| Ecuador   | 1.58% | \$1,389  |

Note: Table #10 – Author’s own elaboration with data supplied for 2012 year from CEPAL and World Bank International GDP.

### **Doing business in Andean Markets.**

In general, the International Community has begun to see Latin America and especially the Andean countries in a better light due to the improvement of their economies and the free trade agreements they have signed. Countries such as Colombia, Peru and Chile have free trade agreements with the US, Canada and the European Union that have motivated the increase in imports of capital equipment such as plastic transformation equipment due to the reduction of trade barriers. In 2016, Colombia has 14 active agreements, Chile 21, Peru 20, and Ecuador only 4 commercial agreements which have preferential Customs conditions (Organization of American States OAS, 2016). In Ecuador’s case, the import of equipment is much less advantageous. The tariffs for injection equipment and equipment for plastic extrusion has an ad valorem tax of 5%, in addition to a fixed tax of 0.5% of the CIF import value to contribute to their infancy development fund, FONDINFA (Organization of American States OAS, 2016). In addition, The Institute of Technique Normalization in Ecuador, INEN, has established several requirements that guarantee the quality of imports which include compliance certifications for imported equipment awarded by world-renowned regulatory entities (INEN, 2014).

According to EY, Colombia is considered one of the most dynamic and promising emerging markets and has various characteristics that make the country attractive to foreign investment. For example, Colombia has double taxation agreements DTAs in order to avoid extra costs and evasion of taxes, as well as to allow dividend flow outside the country as a result of legally registered Investments (EY, 2014). Despite the advantages of this positive business

environment, political instability and high levels of corruption in the Andean countries continue to limit the committed presence of North American and European companies in the way of commercial offices, production facilities or distribution channels (Tuller, 2008), (Price Waterhouse Coopers, 2016).

Although the Andean countries share many cultural similarities, in addition to their geographical proximity which facilitates doing business among them, there are some differences which are important to highlight. According to the author's experience, there are some important personality aspects that must be considered at the time of negotiation in the plastic transformation equipment industry. Colombians have shown to be more keen for equipment of North American origin, and are therefore, more open to hearing proposals from American companies. Nevertheless, the presence of European competitors in the last 10 years has strengthened, and they have offered increasingly more competitive terms of support and prices. Colombians give significant weight to the technical conditions, and thus, put together well-trained teams to solve any inquiries. Price negotiations tend to take longer in Colombia than in other countries, and are made with input from an entire work group. Price negotiations are much tighter wherein the relation between prices and delivery conditions are highly valued, especially the post-sales support (which are considered a fundamental factor at the time of making future decisions or continuing with a given brand). Colombians value technical visits from abroad and see these as great opportunities to acquire knowledge. Finally, given the delay in decision-making it is very common for Colombians to push the provider to reduce delivery times, and to adhere to very strict schedules. Some companies even go to the extent of requiring a complying insurance policy, which typically requires providers to

have offices within the country or at least sales agent who can handle the transactions and carry the risk on behalf of the company.

Businesses in Ecuador also value plastic processing equipment from North America since they have had greater proximity. Although Ecuadorians also base their decisions on technical aspects, they place great value on the relationship history between the companies an agent, and thus respect brands. The plastic industry in Ecuador is centered in Quito and Guayaquil, and to a lower extend in other regions such as Cuenca and Manta.

In Peru's case, the market is much more price-sensitive. Peruvians are more open to considering new brands as long as they deliver better conditions of price and post-sales services. It is very common to see production plants of different European brands, especially if those of Italian origin. In Peru, local representation by nationals is valued greatly. The purchasing decision tends to be shorter, without much review over the technical conditions of the equipment, and are mostly made by the top levels of an organization. In the author's experience, in Peru, it is harder to acquire information regarding the state of a business transaction, a brand's position in a negotiation, or the buyer's purchase intention.

Similar to the Peruvian market, Chile has a greater proximity to European producers and appreciates local representation by Chilean nationals. Even though they are more open to foreign presence, they have greater affinity to doing business with Peru, Uruguay and Brazil as opposed to Colombia, Venezuela and Ecuador (Rojas J. , 2014). Their teams tend reach consensus on their decisions, and typically focus on technical aspects. Even though the size of the plastic industry is

smaller than that in Colombia, it is highly technical. In addition, its lower context indicates that Chileans are more direct when doing business. Price is not such an important factor as long as the negotiating conditions are favorable towards the processor.

Lastly, these Andean markets are very susceptible to exchange rate volatility (with the exception of Ecuador which is a dollar-based economy) which affects both the time it takes to acquire equipment and the viability of projects.

## **METHODOLOGY**

This investigation is a preliminary effort focusing on North American and European companies that produce plastic processing equipment. The introductory study evaluated ten market-leader companies with capacity to export to Andean markets. A great number of these companies have had commercial activity by means of marginal exports through sales agents in Andean countries. Additionally, the study concerns the investigation of primary sources such as plastic industry associations in Andean countries, namely ACOPLASTICOS, APIPLAS, ASIPLA, ASEPLAS, SPE, among others. The first part presents a detailed study of the industry, its markets, and academic literature, which supports the authors' questions. It is also supported by information from specialized websites, annual reports and other sources of information.

The project includes a study of the factors North American and European companies encounter at the time of taking part in Andean markets. These factors can include (but are not restricted to) the size of the domestic market, risk prevention, orientation to international entrepreneurship, resource association and cultural distance. It establishes that an exploratory

study (Eisenhardt, 1989) is a precursor of a more detailed investigation by means of direct interviews with companies.

For these interviews, the Feiplastic de Brazil event, hosted in Sao Paulo, was chosen (May 2015) for being relevant and of interest to the plastic industry in Latin America. A fourteen question survey was developed for the interviews with the objective of obtaining primary source material from North American and European company executives who are likely subjects to making decisions about entering Andean markets. Ten interviews were undertaken with executives who gave their time, sharing their company vision for the short and long term. Since the purpose of the study is to gain a global vision about company attitudes with respect to new markets, the names of those individuals or the companies interviewed will not be mentioned. For different reasons, it was not possible to have a greater number of interviews, including that the author of this investigation has more than ten years of experience in the industry, and certain firms did not wish to share company information or strategy with a possible competitor.

### **Data Collection and Analysis**

A semi-structured questionnaire was prepared, guided by key constructs identified from the literature. These included..... Open-ended questions were included, in order to gain deeper insights into the phenomena being investigated (Crouch and McKenzie 2006). Data were collected using face-to-face interviews with the CEO/ Managing Director, and/or International Marketing Manager of each firm. Interviews were audiotaped and later transcribed. Analysis of the transcribed data was carried out manually. For the purposes of analysis, each interview was treated as a 'case' (Miles and Huberman, 1994). Following a thematic approach, interview data were

initially coded using open coding, and then grouped into within-case and cross-case themes and patterns using an axial coding procedure, which helps to identify the key factors and their patterns of interaction within and between the cases (Miles and Huberman 1994; Strauss and Corbin 1998). Further iteration and sub-coding took place using selective coding, where the case data revealed specific aspects relating to the core theme involved. Pattern-matching (Miles and Huberman 1994) was used to compare patterns and themes across cases.

Case studies are increasingly being viewed as an effective research method (Yin, 1994, 1993; Parkhe, 1993; Easton 1994). Johnson et al (1999) state that: “Case study research consists of a detailed investigation that attempts to provide an analysis of the context and processes involved in the phenomenon under study. No attempt is made to isolate the phenomenon from its context, but instead, the phenomenon is of interest precisely because of its relation to its context. By taking a more systematic and theory-based approach to case study research, case studies may provide a useful, yet underdeveloped tool”.

Stake (1998; 2000) states “the case study is not a methodological choice, but a choice of object to be studied”. The case study is a research strategy that focuses on interpretation and understanding the dynamics present within single settings (Eisenhardt, 1989). Many researchers emphasize the term ‘case study’ because it draws attention to the question of what can be learned from the single case (Stake 1998). Patton (1987) advises that: “Case studies become particularly useful where one needs to understand some particular problem or situation in greater depth, and where one can identify cases rich in information – rich in the sense that a great deal can be learned

from a few exemplars of the phenomenon in question...Regardless of the unit of analysis, a qualitative case study seeks to describe that unit in depth, in detail, in context, and holistically”.

There are various ways of describing the type of case study being employed and based upon the desired outcome, this case study is multi-dimensional. Using Yin’s (1993; 1994) terminology, this case is *exploratory* in that it sought to define questions/hypotheses for subsequent research, it is *descriptive* in that it presents a description of the phenomenon of interest within its context, and yet it is also *explanatory* in that it presents data which suggests certain cause-effect relationships.

Overall, the case study methodology was not used to develop and systematically test specific formal hypotheses (other than the one supporting the quantitative data collection) but rather to employ qualitative data as a basis for theoretical insights as well as to highlight areas where further extensions are called for in theory development. By making explicit the process involved in the collection and analysis of data, the objective is to encourage theory development and progress current knowledge and understanding about such collaborative ventures.

## **THE UPPSALA MODEL AND FIRM INTERNATIONALIZATION**

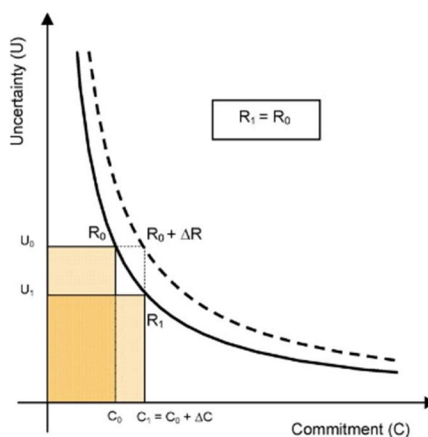
When a business faces the decision to internationalize its operations, for different reasons, the decision to assign resources for those international activities in accordance with the Johanson and Vahlne (1977) model is based on the knowledge and experience which the firm has acquired in every one of the new markets. Additionally, the company must consider the risk it is assuming throughout internationalization process. The Uppsala model (Figueira-de-Lemos, Johanson and

Vahlne 2011) includes risk management as a variable associated to the decision of internationalizing. It is understood that this risk is not limited to just one market, but that it encompasses all the markets in which the firm operates (Shrader, Oviatt and McDougall 2000).

The model associates Risk ( $R_i$ ) with two dependent variables which are Uncertainty ( $U_i$ ) and the Commitment ( $C_i$ ) of the firm in a specific market or markets. Nevertheless, the concepts of Risk and Uncertainty are different: Risk is based on an explicit knowledge of the market, while Uncertainty is associated with implicit knowledge, which can be expressed in some quantitative terms of probability (Figueira-de-Lemos, Johanson and Vahlne, 2011). The way in which a firm can deal with the uncertainty of a given market, is by acquiring knowledge and experience from all the activities it performs in such market. That is to say that the more in which a company has a greater knowledge of the market, the level of uncertainty tends to diminish (Figueira-de-Lemos, Johanson and Vahlne, 2011). This commitment starts from all the activities which the firm has and does in the market by means of assigning tangible or intangible resources, such as: relationships with agents or suppliers, and investment in fixed assets such as equipment, subsidiaries or production plants. Figure No. 3 shows how the concept of risk and the commitment of a firm in a market directly affects the level of uncertainty. The company knows the level of Risk ( $R_o$ ) that it can or is willing to assume as it enters a new market, and based on it, the company also determines the level of Commitment ( $C_o$ ) or initial investment by acquiring knowledge of this market. The change in Commitment ( $\Delta C$ ), assuming the Risk the company is willing to take remains stable, produces a reduction in the perceived level of uncertainty.



**Figure #3.** Relation between Uncertainty, Commitment and Risk for a market



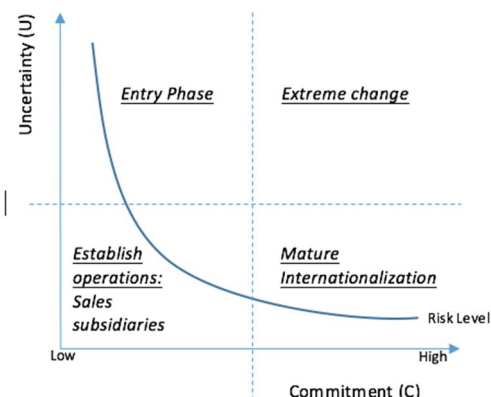
**Source:** This figure was retrieved from (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011)

**Note:** A change in the firm's commitment for a new market has a direct impact on the perceived market Uncertainty maintaining the risk the company is able to assume. It is important to define the Risk as a variable dependable from other market decisions. For instance, a resource assignment for one particular market may affect further company decisions in other markets where the company operates.

It is important to mention that a firm's commitment has a different speed in relation to the reduction of uncertainty. For example, in the entry phase, uncertainty is considerably reduced as the firm acquires greater knowledge of the market it is entering (Figueira-de-Lemos, Johanson and Vahlne, 2011). Nevertheless, a firm's growth or commitment is smaller. Figure No. 4 can help identify the different phases that a firm can experience in a particular market, among them the entry and consolidation stages. For instance, in the entry phase quadrant, the firm begins to acquire knowledge of the market by means of marginal importing to a new market or by means of investigating a country's political and economic situation. In this phase companies are characterized by acquiring or establishing relations with possible agents or sales representatives that are recommended by other equipment manufacturing firms, firms meet at industrial representative events, or by means of commercial missions sent to every one of the countries. It is typical at this stage of investigation for companies to enter new markets by imitation – that is to say, locating themselves in locations where their competitors have already entered (Shrader, Oviatt

and McDougall, 2000). Finally, this phase is linked to low company commitment as the level of market uncertainty reduces drastically.

**Figure #4. Internationalization firm phases**



**Source:** This is my own elaboration based on (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011)

**Note:** Possible firm internationalization phases according to the Uppsala model. It is identified by (4) quadrants on a base of Uncertainty and firm's commitment.

In the following quadrant, the firm has acquired significant market knowledge and decides to assign major resources to it, e.g. establishing a sales subsidiary or an office which depends on the closest affiliate; in the case of Andean countries, an affiliate in Mexico or Brazil. At this point it is noted that the firm has made a major assignment of resources, a commitment that equally reflects the decrease in market uncertainty. The third quadrant shows the firm at the consolidation phase, where it knows the market and can anticipate changes in it. This stage is characterized by the control which firms have in the market, achieved by making large commitments of resources by means of major investments, establishing manufacturing or service centers, or acquiring local businesses. It could be inferred that despite a firm making great commitments to a market, the perceived level of uncertainty of the market does not change dramatically. Once a firm is in this stage of consolidation, financial results tend to be more constant, permitting companies to either reinvest in the market or use resources in new markets.

The last quadrant can briefly explain that an event such as the political situation in a particular country can drastically change market conditions. At this point the level of uncertainty and the perception of the lack of knowledge for this new situation increases, and in doing so the firm has to relearn how to manage those radical changes (Figueira-de-Lemos, Johanson and Vahlne, 2011). When firms do not know how to react and consequently manage the changes, the most reasonable decision is to “wait and see” (Atkins & Anderson, 1999). It can also be seen that in this phase, companies decide to abandon the market or leave a marginal presence by means of disinvestment.

The model is helpful in understanding how plastic processing equipment companies approach entering a market in terms of risk and commitment, where commitment is evaluated beyond just looking to tangible goods; (Figueira-de-Lemos, Johanson and Vahlne, 2011) commitment also takes the process and future decisions made during changing situations and levels of uncertainty into account. In the same measure, it helps us identify phases in which North American companies in Andean markets are, and for the reasons why they do not advance to the following stages. Moreover, the model also aids in explaining why European firms enter Andean markets with more ease; even though the Andean Market poses a high level of risk. The authors intend to uncover the answer to the latter question and identify behaviour patterns in terms of risk and entry models to Andean countries by holding interviews with industry executives.

## RESULTS AND DISCUSSION

Firstly, the assistance patterns of North American and European companies in the Plastic Sector specialized fairs, were analyzed. This primary source of information is very important due to the fact that industrial fairs or specialized events are an essential component in the marketing product mix (Place) for industrial products (Dekimpe, François, Gopalakrishna, Lilien and Vandel-Bulte, 1997). Additionally, these events are a potential source for first class buyers (Gopalakrishna and Lilien, 1995). According to CEIR Centre (Centre for Exhibition Industry Research) participation in industrial fairs forms about 10% of North American companies marketing budget, while for European countries it represents about 20%. This center is additionally charged with measuring the CEIR index which year by year measures the performance of industrial fairs in terms of revenue, participants, exhibitors and exhibition square footage size. For 2015 the result for industrial exhibitions (approximately 150 took place in 2015 at the world level) was 116.8<sup>4</sup> with growth projections of 2.7% for the next two years, spurred-on mainly by a greater level of participants at specialized shows (Centre for Exhibition Industry Research, 2015).

The plastics industry is not a stranger to this trend either, as more and more companies attend this kind of specialized event. There are three events in the sector which are a reference in the industry at world level, and in order of importance these are: K-show in Dusseldorf - Germany, NPE Exhibition in Orlando, USA, and Chinaplast in Shanghai or Guangzhou, China, depending on the year. From the first author's experience in the industry over the last ten years, the majority

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<sup>4</sup> A value based on 100 to determine year by year growth.

of visitors to these industrial events go with predefined objectives of buying, investigating new products, trends, as well as to reinforce relations with their suppliers. Nonetheless, an examination of the brand or supplier begins at an earlier stage, in which visits to local or regional specialized plastic events are made, which for the purpose of this study in the Andean countries are: ANDINAPACK in Colombia, COLOMBIAPLAST in Colombia, EXPOPLAST in Peru, IPLAS in Ecuador and FULLPLAST in Chile. As a matter of fact, the CEIR organization mentioned that around 75% of participants at these type of events, positively influence a company's future buying decisions (Centre for Exhibition Industry Research, 2015).

Specialized plastic exhibitions have come to have relevance in Andean countries as in the case of Andinapack 2015, by positioning itself as the second most important trade event in Latin America, and the first in the Andean region, with a growth rate of 20% and the participation of 800 brands from 40 countries above its 2013 version. The event was recently acquired by the Koelnmesse European organization which organizes events at world level in Cologne, Germany (Andina-Pack: International Packing Exhibition, 2015). This incursion into European events by specialized organizations suggests that European countries are interested in entering or consolidating in the Andean markets. To reinforce this point, attendance data (given to exhibitors at the most relevant plastic events in South America) has been obtained, and compiled in percentages in Table No.5. It is important to mention that the analysis is centered on companies with a direct presence by means of affiliates or commercial missions. For Andean markets it is very common to find sales representatives promoting both North American and European brands, but for the purposes of this study, we refer to this presence as local.

**Table #11.** Plastic Trade Shows in South America - Exhibitors attendance.

|   | <b>Colombiaplast<br/>2014<br/>(CO)</b> | <b>Fullplast<br/>2015<br/>(Chile)</b> | <b>Andinapack<br/>2015<br/>(CO)</b> | <b>Iplas<br/>2015<br/>(Ecuador)</b> | <b>Expoplast<br/>2014<br/>(Peru)</b> | <b>Feiplastic<br/>2015<br/>(Brazil)</b> |
|---|--|---------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|---|
| <b>Europe</b>                           | 13.41%                                 | 14.29%                                | 13.22%                              | 8.91%                               | 11.63%                               | 23.56%                                  |
| <b>North America (USA +<br/>Canada)</b> | 7.32%                                  | 4.08%                                 | 7.93%                               | 4.95%                               | 2.33%                                | 9.06%                                   |
| <b>Brazil</b>                           | 17.07%                                 | 2.04%                                 | 10.34%                              | 1.98%                               | 0.93%                                | 41.39%                                  |
| <b>Asia</b>                             | 4.88%                                  | 16.33%                                | 6.01%                               | 22.77%                              | 14.42%                               | 23.56%                                  |
| <b>Local</b>                            | 54.88%                                 | 59.18%                                | 49.04%                              | 49.50%                              | 53.02%                               | N/A                                     |
| <b>Others</b>                           | 2.44%                                  | 4.10%                                 | 13.50%                              | 11.88%                              | 17.67%                               | 2.42%                                   |

**Source:** This is the author's own elaboration with data retrieved and analyzed from (ACOPLASTICOS, 2014) (ASEPLAST; Asociación Ecuatoriana de Plásticos, 2014), (Comunicaciones, Marketing y Diseño FISA 2015, 2015), (Grupo G-TRADE , 2016) (Andina-Pack: International Packing Exhibition, 2015) (Feiplastic: Feira Internacional Do Plástico, 2015 )

**Notes:** The data presented only includes direct exhibitors, sales subsidiaries, or commercial missions. Local attendance might include sales representatives from European and North American brands.

From the data obtained, there is a repetitive pattern in the events of the sector studied, and it is that European companies have greater percentage of participation than North American companies. This percentage is calculated on the total of companies and brands attending for each event. It is noted that in general, North American presence lessens at events held in the south of the continent as in the cases of Peru, Chile and Brazil. In the author's experience, "Cono Sur" firms in the plastic sector, normally prefer and have a greater affinity with European brands, and this can be seen as much in import patterns of European equipment (see Tables Nos. 1 and 2) as in the preference of European countries to participate in local shows (see Table No. 5). In accordance with the studies of Gopalakrishna and Lilien (1995), firms with complex products, with great buying frequency and concentration of clients in the market, tend to participate more in specialized events. This then would be the case of European countries with historically positive sales results in South American markets.

According to investigations (Ponzurick, 1996), Canadian buyers, extrapolating buyers in the USA, prefer promotion methods which communicate information in a more direct way, and as a result consume less of a buyer's time and resources. This would be the case of sales via telephone and e-mail activities among others. On the other hand, European buyers (at least according to German studies) have a preference for direct sales activities such as is the case of specialized fairs. This might be one of the reasons why North American companies prefer not to actively participate in local fairs in Andean countries nor in South American markets.

This same pattern is observed at the Feiplastic Fair in Brazil which is catalogued as the most important plastic sector event in South America. In fact, this was the chosen event by the first author to meet with companies and decision-making executives, in order to undertake interviews - which are covered later in this document - regarding their perceptions of the Andean market and their intentions of doing/expanding their business there. In the Brazilian market, which has a great potential for business for both European and North American competitors, it is quite common to find that filial companies are already established in the market. These affiliates can have direct sales and technical service operations and manufacturing in some instances. However, a greater number of affiliate organizations in the plastic sector are from European countries.

To support this affirmation, the case of Colombia has been studied by obtaining information from the ACOPLASTICOS organization from its directory of plastics in Colombia, and by taking into consideration the first author's experience in the industry. Initially, it looked at European or North American companies which have a direct presence by means of commercial offers and post-sales services. Results show that the presence of both is not significant in terms of

subsidiaries as a mode of entry; nevertheless, it is identifiable that the Europeans have a greater tendency to establish such operations (see Table No. 6). In the case of (1) Canadian and (1) European company, the Andean markets are covered from Colombia, as is the case of Peru, Ecuador, Venezuela, and in one case Central America (not including Mexico).

**Table #11.** Direct operations of North American and European plastic firms.

| <b>Colombia</b> |   |
|-----------------|---|
| <b>Austria</b>  | 1 |
| <b>Canada</b>   | 1 |
| <b>USA</b>      | 2 |
| <b>Germany</b>  | 5 |
| <b>Italy</b>    | 1 |
| <b>Peru</b>     | 1 |

**Source:** This is the author's own elaboration with data retrieved and analyzed from (Acoplásticos, 2014) and Own Author's experience +10 years in the Market

**Notes:** Data presented only includes direct sales subsidiaries and post-sale support offices.

Similarly, this behavior can be seen with the entry of firms into a country by means of agents or sales representatives. As mentioned earlier, the natural process of a firm's internationalization begins with exports to countries and afterwards with the establishment of subsidiary companies (Johanson and Vahlne, 1977; 2001; 2009). Initially, sales representatives are allowed to explore and to acquire knowledge of desired markets with risk levels tied to their low committed capital. However, the positioning of a brand in a desired market remains in a representative's hands, and this translates to an additional organizational risk in terms of its future intentions in this market. For 2014-2015, 180 North American and European brands were represented by sales agents in Colombia. Similarly, it can be observed that European presence in the Colombian market is more prevalent. This behavior could be extrapolated to other Andean countries, where a North American presence lessens as one advances towards the south of the



continent. Table No. 7 compiles the number of North American and European brands that are represented in Colombia for 2014-2015.

**Table #12. North American and European Plastic machinery brands represented by sales agents in 2014-2015**

| <b>Colombia</b>    |    |
|--------------------|----|
| <b>Austria</b>     | 6  |
| <b>Canada</b>      | 3  |
| <b>Denmark</b>     | 1  |
| <b>France</b>      | 4  |
| <b>Germany</b>     | 46 |
| <b>Holland</b>     | 3  |
| <b>Italy</b>       | 38 |
| <b>Portugal</b>    | 1  |
| <b>Spain</b>       | 6  |
| <b>Switzerland</b> | 3  |
| <b>UK</b>          | 6  |
| <b>USA</b>         | 62 |

**Source:** This is the author's own elaboration with data retrieved and analyzed from (Acoplásticos, 2014) and Own Author's experience +10 years in the Market

**Notes:** Data presented only NA and European plastic machinery brands, it does not include raw materials and/or other types.

One can infer that the possibility of establishing subsidiaries is greater with representatives as the selected entry mode. Despite the low conversion rate in the brand entry mode 11/179, European brands tend to establish themselves in other entry modes, such as direct subsidiaries 9/114, in contrast to North America 3/65. This could mean that the cultural difference between European and Latin American countries is not as great (Kirkman, Lowe and Gibson, 2006) due to the more frequent trend of establishing direct subsidiaries (WOS), committing greater company resources and assuming greater market risk. According to Hofstede's measurements, countries with a higher Individualism do not tend to form entities and alliances— that being one of the possible explanations as to why North American firms do not take part in Andean markets in a more direct way (Kirkman, Lowe and Gibson, 2006). Moreover, the result of the presence of North

American and European firms in Colombia gives a similar idea (Brouthers & Brouthers 2001), that the cultural distance of North American firms is greater since they do not establish subsidiaries and instead prefer sales agents.

### **FINDINGS OF THE INTERVIEWS UNDERTAKEN**

Face-to-face interviews were performed with 10 business executives in the plastics processing equipment sector; 5 North American and 5 European. The concept of saturation, which is when additional interviewees do not provide new information, was considered when selecting the amount of subjects. Given the reach of our research, the time constraints due to the nature of the event (limiting interview to 15-20 minutes each), and the fact that the audience in these types of markets tend to be homogeneous, a sample of 6-12 interviewees is enough to yield the expected results (Bonde, 2013). According to Crouch and McKeinzie (2006), in a qualitative study, a sample below 20 subjects is sufficient to help the investigator build the required concepts, reducing bias and the threat of holding a qualitative-only investigation.

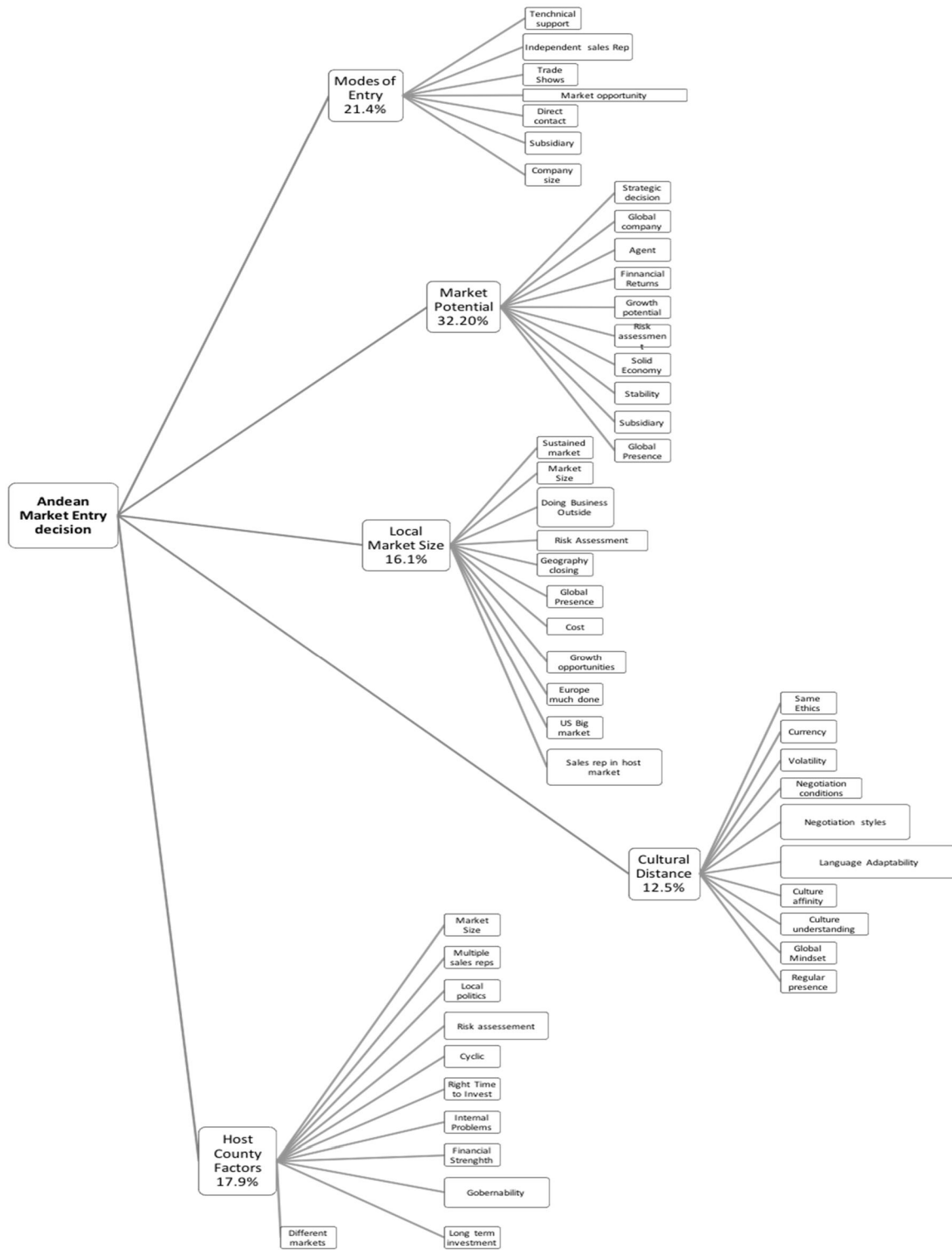
The interviews were undertaken during the International Plastics Fair held in Brazil in May 2015, which is considered to be the major specialized plastics event in South America. The chosen event allows access to different executives who have decision-making power in Andean markets and despite their time limitations can give interviews. A semi-structured questionnaire with twelve open questions (Crouch and McKenzie, 2006) was prepared for them, which allowed the authors to identify company patters in terms of modes of entry to the Andean markets, company expectations in relation to themselves, the influence of local market size as a motivating or demotivating agent to enter new markets and the perceived cultural distance of Andean countries.

For the ease of interlocutors, some interviews were performed in Spanish and some in English; nonetheless, the transcripts were written in English, thus standardizing the information gathered. For analysis purposes, every interview is treated as a separate case so as to understand the dynamics presented by each company (Miles and Huberman, 1994).

Before proceeding with interview interpretation, the quantity of opinions presented has been added with the help of MeaningCloud®— a specialized software. There were 237 opinions deduced from the 10 conducted interviews. These opinions were preliminarily classified in aspects such as: society, politics, government, and business among several others. Subsequently, these opinions were classified and associated with (5) variables that were found to be the most relevant for European and North American companies when they make the decision whether to enter Andean markets. These variables are: Mode of Entry, Market Potential, Firm's Compromise, Size of the Local Market, Cultural Distance and Risk Factors.

In the first step of analysis, a decision tree was constructed to give mathematical weight to each one of the five variables and the different Associated Factors. The results as a decision tree are represented in figure No. 5 below. As can be seen, market entry decisions are mostly influenced by the Mode of Entry and the potential of it's the target country's market. It is interesting to observe that the size of the local market is not the most decisive factor at the time of entry, although North American companies did believe it was important.

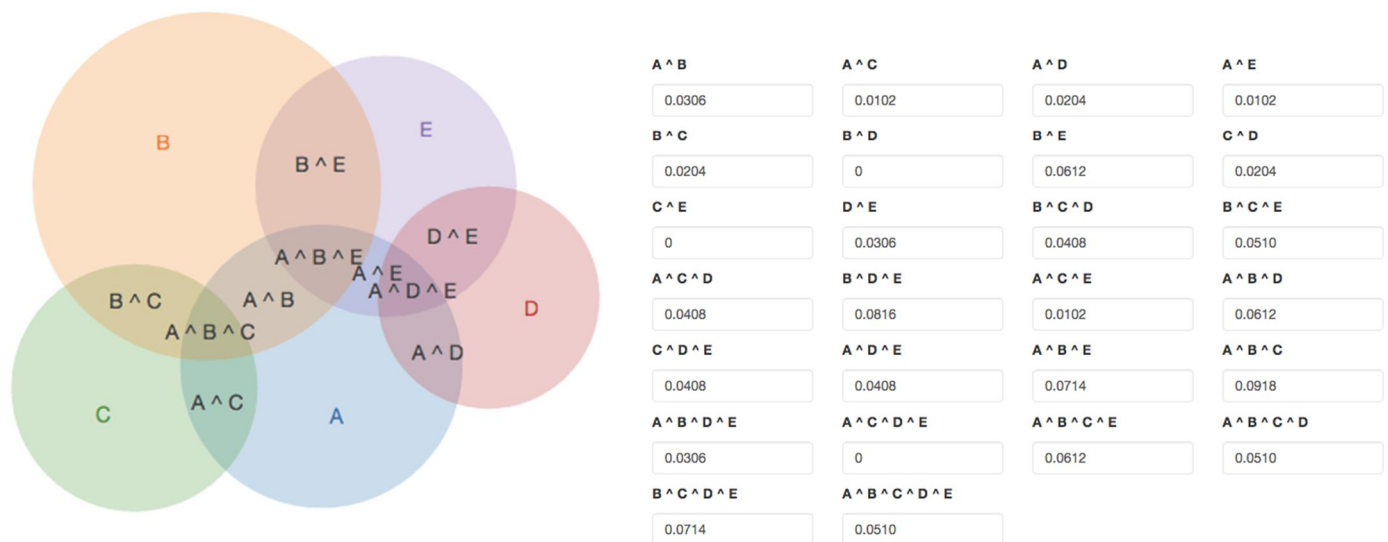
**Figure # 5. Decision Tree for Andean Market Entry Decision**



Source: Author's own elaboration with interviews main opinions and Meaning Cloud® online software for Excel

With the aid of the Online Venn Diagram Maker<sup>5</sup> tool, a Venn diagram was made taking into account the five factors (figure No. 6) with the objective of illustrating the co-occurrence between opinions, as well as the interrelationships between different variables. The intersection of the different sets displays the interrelationships graphically. The frequency of such interrelationships were manually calculated based on the number of occurrence of each opinion for each of the different variables, and based on their subsequent occurrence. The size of the sets (A, B, C, D, and E) are the results obtained for each one of the variables.

**Figure # 6.** Venn Diagram for the 5 studied variables



A: Modes of Entry  
 B: Andean Market Potential  
 C: Local Market Size  
 D: Cultural Distance  
 E: Host Country Risk Factors

**Source:** Author's own elaboration with MetaChart® Venn Diagrams maker online.

<sup>5</sup> <https://www.meta-chart.com/venn#/display>

It can be observed that there are variables that are not interrelated, showing that at the time of making the decision of market entry, they could be handled independently. The co-occurrence intersection zone (7.14%) between the Mode of Entry, Market Potential and Risk show that these would be the three variables that would be considered in the decision making process under the Uppsala model already referenced. The more knowledge about risk factors that the investor collects, the better able he or she would be able to balance the compromise levels and uncertainty to determine the best mode of entry to the Andean countries (Figueira-de-Lemos, Johanson & Vahlne, 2011).

The intersection of mode of Entry Market, Market Potential and the Size of the Local Market (9.18%) could be explained by a company's opportunity awareness in the generation of a network of Labor or their presence in various markets. In fact, the companies with greater local market structures tend to have greater resources that allows them to potentialize their search for new markets (Johanson & Vahlne, 2009). This is the case for European companies which have established a great structure in their countries of origin, which thus allows them to create structures in Latin America.

Lastly, the zone with the least co-occurrence frequency (4.08%) occurs between the Mode of Entry, Cultural Distance and Risk Factors, which could be interpreted through the Uppsala model. As a company acquires greater knowledge in the market, their compromise levels tend to rise since the cultural distance with the target market has by then diminished (Johanson & Vahlne, 1997).

Knowing the weight of the different variables and their importance in decision-making processes will allow getting to know each one of the variables in detail, and through the selected opinions, illustrate the differences among European and North American companies.

**a. Entry Models**

The majority of companies in the study have entered Andean markets by means of sales representatives, and have emphasized their importance as the initial method to acquire knowledge of the market with local people, while at the same time minimizing entry risk. Up until now, none of the companies have used a different mode to gain entrance in Andean markets, but some of them, principally European companies, emphasize the importance of developing the market, and subsequently, establishing direct sales offices or joint venture actions that fit logically with models of firm internationalization (Johanson and Vahlne, 1997). In the following examples, the difference between a European and a North American company can be seen over the long term in relation to entry models. It is clear that a North American company has a sales agent vision, while European companies are thinking about developing much longer term relationship and assuming greater risks, which in the future could develop in choosing a method of greater control known as WOS (Kirkman, Lowe and Gibson, 2006).

*“Normally, we always begin with reps....Once the number of machines sold and installed goes up, then we consider opening a local branch. If the representative has done a good job, then he stays in the organization as the director of that branch.”* (A German injection machinery provider).

*“We strongly believe in using independent - representatives.”* (A North American auxiliary equipment supplier).

*“Having a direct approach is the optimal way to enter the market but it is also expensive. So having an agent as an intermediary helps until the market size*

*justifies the expense of having a local branch. (A French injection robotics supplier company).*

The majority of North American companies are of the view that Andean markets should be served by sales agents whose responsibility falls on sales agents whose international operations are stronger and nearer as in the cases of Mexico and Brazil. Due to the American presence in Mexico by means of NAFTA, North American company operations in that country are stronger and have responsibility for the rest of Latin American markets. The following (3) interventions show the structure which North American companies are normally applying in Andean markets minimizing entry risk and utilizing existing support networks for the process of internationalization (Coviello and McAuley, 1999). Additionally, they tend to remain in the phase of getting to know the market, which is characterized by variable results, and a lesser participation as historically seen by North American companies. (See Table No. 1). (Figueira-de-Lemos, Johanson and Vahlne, 2011) and (Brouthers and Hennart, 2007).

*“The company’s head office is in Canada, with authorized sales representatives in Mexico and now in Colombia. The Andean Market’s responsibility comes from Mexico where we have plans to open a branch office.” (A Canadian injection molds and systems supplier).*

*“All our support for Latin America is done out of our Mexican operation. With little bit of local support in some key markets places and that is what helps me decide how much I want to invest in a market” (A North American Auxiliary equipment provider).*

*“We already have offices in Brazil. Our goal is to grow that office, so one day it can take care of the entire Latin American Market.” (A North American machinery equipment supplier).*

For both European as well as for North American companies, positioning a firm in Andean markets is fundamental for success in the market and the most natural step to access to those local



markets is by means of agents. In some instances, the use of representatives has a lesser initial risk, but can have long term repercussions in the market, for which reason companies emphasize the technical training for agents, specialization in the products they represent, as well as strengthening mutual relations between managers and agents (Uhlenbruck, Rodriguez, Doh and Eden, 2006). One of the cases concerns a French company which sells robots for injection molding machines – that organization’s preoccupation is that the sales representative does not have the required technical knowledge to support clients and not just in the commercial area. For North American companies, training is one of the fundamental points in the formation of a reliable sales agent.

*“It also relies on how good your representatives are, and how well you train them.”*  
(A North American auxiliary equipment supplier).

*“Going through an agent is also hard because our product line requires a lot of technical support for the client and depending on the agent could be hard.”* (A French injection robotics supplier company).

In the selection of an entry mode to a particular market, company size is relevant in the decision. For instance, in the case of medium and small companies (SMEs) which employ from 1 to 250 people (Sullivan and Branicki, 2011) the resource level is more limited by comparison with bigger companies, (MNEs) thus requiring entry models which involve less capital such as marginal exports or sales agents (Carlsson and Khan, 2014). In the plastic processing equipment sector, the average of primary equipment production companies such as in injection and extrusion, have a range of employees of between 2,500 and 5,000; production companies of auxiliary equipment and robotics have between 200 and 700 employees; production companies of molds and specialized equipment such as turbo-mixers have between 50 and 200 employees. In interviews, the influence of company size in relation to the sales agent entry mode can be seen as in the case of a German turbo-mixing machinery manufacturer.

*“That is strongly related to the size of the company; our company has 50 employees, so it is very difficult to set up a subsidiary in another country in which you have to install certain functions and expect a required turnover...” (A German auxiliary equipment).*

#### **b. Andean Market Potential and Commitment**

In the greater number of cases, both North American and European companies identify Andean markets as having potential for generating sales. Nevertheless, firms do not have a vision of the Andean countries as a block. The majority of countries differentiate the potential from one country to another, as for example in case of Colombia and Peru due to political instability or the state of the economy of each country. North Americans are more sensitive to the risk that these differences imply, deciding beforehand which countries to enter and which not to enter.

*“There are countries that we do not necessarily want to invest in, or are not interesting, investing a lot of money in marketing because in these moments we are just not going to obtain much business from them... We prefer to focus on other countries that have a more solid economies progress and where new industries are being built... Chile, Ecuador and Colombia are such key countries.” (A North American plastic recycling equipment supplier).*

In the case of European countries, it is noted that despite the risk which regional instability implies, long-term market objectives are established. One such example is a German injection producer whose focus is to be in every one of the markets where it has established clients, and maintained a constant presence in the market and/or region. This behaviour guarantees that the firm will be successful in the emerging markets such as Latin America, which is a crucial long term commitment for the firm (Freeman, Cray and Sandwell, 2007). It is clear that this commitment to its clients and especially to the Andean markets allows it to acquire a greater knowledge of the countries, and in that way regulate uncertainty in the Andean markets – that is

to say, to manage the risk which the company can acquire in a better way (Johanson and Vahlne, 2011).

*“Absolutely! The Andean markets present excellent opportunities. We are not expecting a larger sale of machines, but rather higher automation like you see in Europe. There is where we expect to see larger growth, but to achieve that, we must be present. You have to be present years before. Thus, you can be a better competitor from the beginning.”* (A German injection machinery producer).

One of the European injection equipment suppliers has focused more on the potential size of the market in particular, as a company executive mentioned with the possibility of being present in every one of the markets in which the company has clients operating its equipment. In this way the company shows the commitment it has to its clients, and creates consistency in the market.

*“We don’t take our eyes of any potential market. We are present in markets such Paraguay and Bolivia which are not large markets...Being present give us the advantage of seeing the market and evaluating if it is worth having direct support or representatives., or eventually even being directly in the market...”* (A German injection molding machinery supplier).

On the other hand, it is evident that Canadian companies have a great entry possibility to Andean markets as a historical exporter, as the greater part of their products are principally exported to the USA as mentioned in other parts of this document. In fact, one of the best known Canadian firms in the injection market, has a sales office established in Colombia to cover Andean markets, showing the firms commitment with the market. The example was taken up by an injection molding production firm for a packaging application for which it has come making investment in the market. Moreover, evidence will be shown of the company’s commitment with the Colombian market.

*“We believe in the Andean Market potential, indeed we announced our participation at the Andinapack show for first time in Colombia. Demonstrating continued commitment to new markets and serving more customers in Latin*

*America... Latin America represented by 2015, 18% of our total sales.” (A Canadian Injection molds and systems supplier).*

In the case of North American firms, that possibility is seen as remote, given the results of establishing direct operations (see Table No. 11) and the findings in which interviews show a greater tendency towards sales agents as well as companies which supply auxiliary equipment such as machinery for injection and/or extrusion processing.

In relation to market strategy, the majority of companies, without distinction, identify it as a price-sensitive market. Both American and European plastic processing equipment suppliers are of high investment, for which reason companies focus on more educated markets which have more technically qualified clients, and who seek better quality and equipment performance – high-end niche. The Latin American market has a great Asian competitive component which offers low price equipment, but with much lower quality and performance.

*“Chile is a very educated market, and they have good industries there so of course, as a global company, you need to be there.” (An Austrian injection machinery producer).*

### **c. Local Market Size**

With relation to this aspect, both the interviewed North American and European companies gave their perception of the variable market size. The first finding is that both consider their local markets to be more important and whose revenue to a great extent supports their expansion operation. However, there is a conceptual difference between the American and the European – the latter consider a firm’s growth opportunity in other markets such as Latin America. For the Americans, the local market is very important and therefore, they direct the greater part of the growth efforts. The findings support Calof’s affirmation (1993) in which North American

companies tend to have an attitude of focusing on their domestic market, obtaining the required resources at a lesser risk. Next, we present some examples of North American companies in relation to the importance of their local markets:

*“We have seen that there are many opportunities in South America, but we are mainly focusing on North America whose market is much stronger and profitable, as there are many opportunities to sell our equipment there.”* (A North American machinery provider).

*“The Best place to go internationally is either Canada or Mexico, close to home, test how it goes from there and then go conquer the rest”.* (A North American auxiliary equipment provider).

*“It is because America has always had the luxury of having a self-sustaining market that the do not have to do business outside. The European countries have smaller markets so they learned quickly to do business outside their own boundaries and borders.”* (A North American machinery provider).

European companies, by contrast, are cognizant of the size of their local market, but hold it equal to every other market where the firm has operations. Germany is the most important market for plastic injection equipment wherein companies have high participation levels, which shows that the market is saturated. Growth in those markets then depends on gaining participation and maintaining position with its European competitors.

*“We want to grow and we don’t want to stay the same way as we are today. In Europe the market is more or less saturated. In Germany for example, we have a market share of more than 30%...So we have to grow more, and this potential is in developing countries like the Andean Markets.”* (An Austrian injection machinery producer).

*“In Europe we have a big market, close to 1200 machines. We have an 18% market share in Europe. Our Global structure is 1/3 Germany, 1/3 Subsidiaries and 1/3 agents around the world.”* (A German – Japanese injection molding machinery company).

Therefore, there is evidence that proves the author's hypothesis in that market size influences the decision of North American companies to enter Andean markets, seeing them as having marginal potential and explaining why the results they have had are historically lower by comparison with their European competition.

#### **d. Cultural Distance**

North American companies identify substantial cultural differences between Andean countries and the USA, and even among the different countries that make up the Andean Pact or region. The Europeans identify their abilities and advantages in this aspect when faced with North American competition, and in the same way they identify their own limitations. They identify language as a limiting factor despite the fact that English is the language of business in the region. In addition, they see their historical lack of market presence, and the lack of local people who know the regional market as other areas of weakness. It is natural that foreign companies initially prefer to do business where there is an environment with similar conditions as in the local market (Alon, 2006).

*"We had our own market, everybody has the same talk, the same set of ethics, we use the same currency and we didn't have to worry about it fluctuating. So there are a lot of things that get in the minds of manufacturers when they look outside their safety zone." (A North American auxiliary equipment provider).*

*"I see the problem most focused in the cultural mindset of North American companies, for instance not many people at an executive level speak the language, or know the customs... Historically, North American companies haven't had a regular presence in this market." (A North American robotics and systems supplier company).*

In the author's ten years plus experience in this market, each one of the Andean countries has different forms of negotiation and approaching their suppliers. On this Point, North American

Companies are weaker in adjusting to forms of negotiating in Andean markets, which independently of technical products, are price sensitive. For example, it is recommended that the final price of industrial goods moves between 60-100% of the freight on board (FOB)<sup>6</sup> value, which is not economically viable in some markets.

*“Americans perhaps have more discipline in terms of negotiations, having a price to which they stick. Conversely, Europeans are more sensitive to the conditions and negotiating tactics in Latin America, and maybe are more open to negotiation terms.”* (A French injection robotics supplier company).

*“I said, the difference is cultural in the way of being able to adapt to negotiating styles, to the language and culture of the country, and I think that in those terms the Americans are not as versatile as European business executives.”* (A German injection molding machinery producer).

This is especially the case if logistics costs are considered with reference to oversized equipment from production plants to east coast USA ports as they are comparatively higher than those from European countries (Rodriguez and Notteboom, 2010). For example, the logistics cost of bringing a 1,000 metric ton injection equipment (weighing approximately 161,000 lbs) from the USA to Colombia carries a surcharge of about 40% by comparison with similar equipment from Germany (Santa, 2014). On this point, North American companies enter with a significant price difference and should be much more price sensitive at the moment of negotiation. It should be emphasized that the majority of Andean Pack countries tend to negotiate directly with the OEM (Original Equipment Manufacturers) instead of the external sales representatives in order to obtain better prices. The following table shows the difference between both values only with reference to this study.

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<sup>6</sup> <http://www.export.gov/Colombia/doingbusinessincolombia/sellingusproductandservices/index.asp>. FOB is a shipping terminology acronym meaning Freight on Board.

**Table #13.** Associated logistics costs for a 1000-ton injection molding machine.

|  | <b>Packing +<br/>Freight CIF<br/>Cost (US\$)</b> |
|--|--|
|  | 1  |
| German Machine 1000 MT<br>(Hamburg to Cartagena)               | 53,658 US\$                                      |
| North American Machine 1100 US Ton<br>(Baltimore to Cartagena) | 76,395 US\$                                      |

**Source:** This is the author's own elaboration with data provided by a logistics supplier company in USA, and customer's insights for a 1000 MT injection machine project. CIF including packing, freight and insurance costs to Cartagena, Colombia.

**Notes:** The data presented is only a reference, and cannot be used as a definitive value. Calculations were made taking a EUR/USD exchange rate of 1.367 by 2014 data. This might be a tendency for a bigger difference nowadays.

In general, quality, performance, functionality, financing and prices are the most important aspects for Andean markets in search of industrial goods in terms of negotiation. Along those lines, maintaining a post-sales structure is recommended because it is a decisive factor in the final purchase (Export.gov, 2013). Many countries return to other user's recommendations of equipment, their grade of satisfaction with a particular make and above all, the perceived post-sales customer service (Export.gov, 2013). This post-sales support is vital for the relationship between the firm and the company, with the mediation of course of the local representative. On this point, we have found European country responses to be where the principal focus is on post-sales service.

*"...Therefore, the first thing that we look for, is a local technical support team..."*  
(A German injection molding machinery supplier).

*"...Going through agents is also hard, because our product line requires a lot of technical support to the client, and depending on the agent that could be a limitation..."* (A French injection robotics supplier company).



e. **Host Country Level Factors: Risk Associated and The Andean Market Situation**

The objective of this study is not to review each of the factors from the literature that might influence the entry decision such as the cultural aspects of the Andean countries, their way of doing business, political philosophy and/or economic orientation (Rojas J. , 2014). Instead, we focused on the perspectives of those interviewed on the factors they considered of greater importance for each of their companies in evaluating the Andean market. The findings show that North American companies tend to worry more about the political stability and economic conditions of a country, thus explaining their attitudes towards each country.

*“It varies by country. Brazil is a very difficult place in which to do business as foreigner, but if you are a local it is a lot easier. Colombia is definitively a lot better nowadays, and it is getting easier to do business there. Argentina, because their whole system is falling apart before everybody’s eyes, is not a good place to do business, but we still continue to try to sell there...”* (A North American Auxiliary equipment company).

*“Latin America is in the worst shape that it has been for many years because from five countries in which we have interests (Mexico, Colombia, Venezuela, Brazil, and Argentina), four have significant internal problems. When Head Office wants to invest, one of the main components within that decision is to see the situation in each country.... It also depends on how the country treats you as investor.”* (A North American equipment company).

*“The Problem in those countries is they have many political problems that affect their growth... This is the main problem that we have seen in Latin America in terms of investment, because you never know if a country is going to be in good or bad condition.”* (A Canadian injection molding machinery supplier).

In the case of European Companies, most of them share their concern for the political instability of the Andean countries, but their response is to have a presence in these countries, Venezuela included, for which all companies emphasized its current political situation.

*“In South America the politics are very important because every year everybody is expectant regarding elections. Everybody is stopping to see who is coming into power.”* (A German injection molding machinery supplier).

*“I consider Latin American markets very cyclical, so we just have to be careful about when is the right time to invest.”* (A German injection molding machinery supplier).

A fundamental condition for business to take place among different countries, is that the executives can travel to such countries with a perceived notion of safety. The importance of business trips has been recognized in studies, as a crucial source for technology transfer, since it can be explained more effectively at a personal level. These trips also have been found to impact innovation, depending on the quality of knowledge the person travelling carries (Hovhannisyann & Keller, 2015). Furthermore, business trips are essential in order to evaluate a company and country first-hand prior to establishing relations and commitment for a long-term (Tani, 2006). In this way, the company can solidify long-term relationships with the agents, get to know their culture and gain insight from the target market. Safety issues limit business opportunities as is the case in Venezuela, where several companies are avoiding traveling. Some perceptions of safety regarding Andean countries are displayed as follows:

*“... I have not been in Venezuela for twelve years because it is not safe to go there...”* (A German injection molding machinery supplier).

*“... I have been in Colombia twice and I feel safe there. The country is politically stable and this is one indicator and driver for our decision to be more present there.”* (An Austrian injection molding machinery supplier).

Different strategies of managing the risk involved with entering a new market, such as the Andean region, were found. One of our findings was that European businesses handle risk not only

in terms of the entry-stage, but also the overall context. For example, they speak of the advantage of diversification by being present in different locations, and refer to the positive results of one country that may compensate for the momentary losses in a different location. This concept can be associated with the Uppsala model in which Risk is not limited to only one market, but to the combination of markets in which the firm operates (Shrader, Oviatt, & McDougall, 2000), thus balancing risk with different levels of commitment (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011).

*“...It is the total market that makes a difference for the company to be able to be successful every year. For instance, Latin markets compensate for a downturn in the Brazilian market.”* (A French injection molding robotics supplier).

*“We were lucky during the last recession: to have different markets was very advisable...”* (A German auxiliary equipment supplier).

*“The company is not afraid of taking chances in a crisis, and being confident that there will come a day in which there won't be clouds...”* (A German injection molding machinery supplier).

North American companies, on the other hand, handle the risk of entering a new market by opting to enter via a sales representative. In times in which the economy of a country is weak, they maintain their strategy with the expectation of generating marginal profits. In fact, one of the companies interviewed, mentions that the Europeans have an advantage in their handling of risk since their markets are small and are mainly focused on exporting.

*“...Europeans learned how to undertake risk assessment and consequently quickly learned how to do business outside their own borders...”* (A North American Auxiliary equipment company).

*“Depending on the market size and the geography of the country, we sometimes decide, that you have to find multiple representatives. You can't rely on one agent or one agency.”* (A North American Auxiliary equipment company).

*“You always try to get a feel (for the market?) as you have to work with local politics. Can you get your money back? How hard is it to get your money back?”*  
(A North American recycling equipment company).

## CONCLUSIONS AND IMPLICATIONS

Beyond criticizing North American plastics processing equipment makers, whose participation in Andean markets has not been constant or prevalent, this project seeks to highlight the potential that this market has, and show evidence of the growing expectations of their European counterparts. We have interpreted the behavior patterns observed in order to identify the main factors that motivate (or deter) North American companies from entering Andean countries, and the reasons why European participation is greater in the region. The study intends to go further than the typical opinions held in the industry, and support the findings through theory, based on internationalization models (Johanson & Jan-Erik, 1977), (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011) in relation to factors such as psychological distance, risk management, mores of entry and political conditions of the Andean countries.

In first place, evidence shows that Andean countries represent a potential market of about US\$120 million, without considering Brazil (Legis S.A. , 2015). Per capita consumption of plastic is only 5% (PlasticsEurope, 2015), but future projections are an interesting prospect; for instance, the per capita consumption in Latin America by 2016 is expected to reach 32Kg. While this value might be considered low in comparison to the market NAFTA consumption (139Kg), and that of western Europe (136Kg) (PlasticsEurope, 2015), European companies are present and participate more actively as evidenced by their higher establishment of sales representatives, WOS and greater attendance in local Fairs.

Our findings reveal that there also exists a direct relationship between the size of the local market, in the case of this research project the NAFTA region, and the decision of a company to actively look to expand to other markets. These results turn into the main contribution of this study since other research and theories have not produce extensive findings. Nevertheless, it is important to highlight that even though the size of the European market is equally attractive, as per capita plastic consumption is of about 20% annually (PlasticsEurope 2015), European companies have shown more presence in the Andean region. Such presence can be explained by the fact, as previously presented in the study, that European companies are present in multiple markets in order to diversify risk, which is also supported by other research studies (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011). Thus, European firms have more stable sales results, as they compensate low performance in one country, with better performance in other countries which may temporarily have more beneficial economic conditions.

According to the numerical analysis regarding the weight of each variable that was studied and the intersections among the variables (Figure No. 6), it could be inferred that the mode of Entry Market, Market Potential, and Size of the Local Market would be the most important variables at the time of making a decision whether to enter the Andean markets. This result can be supported by (Johanson & Vahlne, 2009) which states that the size of the local market and the presence of a firm in it are determining factors to support activities internationally. In the case of North American companies, this result explains the author's hypothesis in regards to the local market size being a decisive factor given the risks inherent in entering new markets. Regardless of the result, it is clear that when evaluating each variable separately, Market Potential is the decisive factor in determining the mode of entry a firm will utilize.

The preferred modes of entry of North American companies are by far agents, or sales representatives due to the uncertainty they perceive from the market (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011). It is clear that political instability (Schwab, Klaus, 2015), for example, in the case of Colombia, is one of the factors the North American firms perceive as a barrier for doing business. The volatile sales numbers in Latin American countries, make such markets unattractive for North American companies since they do not see potential for growth; thus, these companies consider Latin American markets as a marginal source of sales. A way that North American companies could potentially reduce their perceived uncertainty, is by acquiring greater commitment levels which would allow them to get more insight on the inner workings of these markets via models like the Uppsala model (Figueira-de-Lemos, Johanson, & Jan-Erik, 2011). However, the cultural distance perceived among North American and Andean countries makes believe that this continues to be a limiting factor.

The following table shows a comparison between the way European and North American firms study and enter Andean markets. This summary stems from the different findings from the analysis of the interviews, the author's market experience, and data obtained from secondary sources. Apart from defining which strategy has given better results or is more convenient, the author intends to show the difference in attitude between both types of firms, and enrich the discussion about free competition. Therefore, this information could serve companies to get a better perspective of the Andean Markets, and use the information as an initial source to begin formulating a strategy or to make adjustments to an ongoing strategy.

**Table #14.** Parallel between North American and European Plastic processing equipment firms towards Andean Markets

|   | <b>European Firms</b>  | <b>North American Firms</b>   |
|---|--|---|
| <b><i>Modes Of Entry</i></b>                            | <p>Sales Agents as Initial Method</p> <p>Importance to develop the market with sales offices or JVs</p> <p>Developing long terms relationships</p> <p>Small branches in Andean Markets</p>   | <p>Sales Agents as most convenient Method</p> <p>Sales agent vision, market responsibility relies on the Agent</p> <p>Relationships based on market performance and results</p> <p>Andean Market supported by Sales offices hubs in Mexico or Brazil.</p> <p>Sales agent training concerns</p>  |
| <b><i>Andean Market Potential</i></b>                   | <p>Long Term market objectives</p> <p>Market consistency</p> <p>Higher market commitment and customer after sale.</p>  | <p>Marginal focus</p> <p>More sensitive to risk and volatility in Andean Markets</p> <p>Differentiation between Canadian and US Firms. Canadian are more open to exportation and consider new markets.</p>  |
| <b><i>Local Market Size</i></b>                         | <p>Europeans invest regularly in other markets</p> <p>Regular and constant presence in all the markets they operate.</p> <p>Fragmented European markets despite European Union market</p> <p>EU is considered a saturated market</p> <p>Resource assignation every market they have operations</p> | <p>Growth and main resources for local market</p> <p>Strong presence in Local Market creating strong Entry barriers for newcomers.</p> <p>US strong and profitable market</p> <p>International path to nearest countries as Mexico and Canada.</p> <p>Self-Sustaining market.</p>   |
| <b><i>Cultural Distance</i></b>                         | <p>More sensitive to conditions and negotiation styles presented in Latin America</p> <p>Open negotiation terms</p> <p>Lower International logistics costs (Advantage for negotiations).</p>   | <p>Language limitation awareness</p> <p>Historical lack of Presence in Andean Markets</p> <p>Less ability to adapt negotiation styles</p> <p>Higher logistics cost and different interpretation of INCOTERMS</p>  |
| <b><i>Risk Market factors and Country Situation</i></b> | <p>Have wider presence adapted to political and Economic situation</p> <p>More open to business trips with limitation. E.g. Venezuela.</p> <p>Risk assessment in overall context, diversification</p>  | <p>More concern about political stability and economic conditions</p> <p>Concern with business trips, especially not safe countries. (US State Department for travel advisory)</p> <p>Risk assessment by transferring market risk to the local agent.</p> <p>Representation contracts revised very carefully to avoid firm overseas implications.</p> |

**Note:** Table #14 – Author’s own elaboration for interviews perceptions and market experience +10 years

Despite the Andean market representing a potential for growth and generating sales for companies, from a North American viewpoint, it would appear that this is not considered in the case of this particular industry, to advance other stages of a firm's internationalization such as in the case of establishing manufacturing plants (Johanson and Vahlne, 1977 and 2009) or technology impact centers (HIT Centers) such as those which companies recognized in the sector have in countries like Mexico and Brazil. It could be expected then, that the way of market participation would be by means of sales offices with direct WOS personnel who provide revenue by the sales of spares and consultancy advice to industries. Another possible entry method, in accordance with the first author's experience, could be by means of a joint venture with a local company, as in the case of an Austrian injection equipment supplier company in Colombia, in which case both sides share the risk, but in the future this method affords the opportunity to the foreign party to acquire the company in the case of sustainable revenue flow.

A series of management implications arise from this study. The first is the identification of some limiting factors of doing business in Andean countries, which once identified could be addressed to potentially obtain better results in those markets— if there is a real interest by the company in entering Andean countries. The results compiled in the study could help in making management decisions (initially in relation to firms dedicated to the plastics market), in the case of company executives who are involved in the decision making process to enter Andean markets, or in the same way by firms who are interested in strengthening their market presence. For both North American and European companies, it is interesting to understand their counterpart's entry strategies, which could result in a more competitive market, and in turn bring benefits to the final equipment user in the long-term.



Due to the fact that knowledge acquisition of the market is a process that involves time and company resources, this kind of study is a source for obtaining primary source information, and thus create an image and assessment of the risk on entering Andean markets.

### **Limitations**

This study targeted the plastics industry, and was particularly oriented to processing equipment or capital goods in the sector, which means that the findings are potentially less informative than those that can be acquired by an analysis of a range of industrial sectors or markets in which North Americans and Europeans have an interest in entering, such as the Central American and Caribbean markets, the Mercosur market such as Argentina, Paraguay and Uruguay among others. Also, the changing conditions of the Andean markets could impose a time limitation in the application of the findings as these could not be projected long into the future (Correa and Murillo, 2014).

As in many qualitative investigations, part of the results presented are perceptual and are framed in the industry studied in such a way that the results can not be generalized outside of the studied context (Correa and Murillo, 2014). The possibility of access to a greater number of industry executives, as well as for accessing raw plastic material manufacturers was not taken into account in this investigation. In that sector, there are various well-known North American companies with an important sector participation due to having exclusive references or materials. Finally, although the knowledge provided in this study is empirical due to more than ten years of

commercial experience in the market, it can be sustained or augmented by a more exhaustive market investigation.

### **Opportunities for Further Studies**

For further lines of investigation, the possibility of extrapolating a study beyond the industrial equipment or capital goods sector and not just limited to the plastics industry is suggested. That would require a more representative industry sample in order to verify whether the studied phenomena are in reality a behaviour pattern of North American companies or on the contrary if they are specific to this particular industrial sector. The scope of the work undertaken, could be complemented in the future with company case studies in the particular sector which show success or failure in different markets at the moment of selecting entry methods (MOEs), different to sales agents. For example, it would be interesting to evaluate the case of a well-known Canadian company which has been undergoing a process of contraction of its international operations by closing or reducing the number of its offices in Brazil and Colombia.

Further investigations could track or find modes of entry to Latin American countries different to entry phases with sales representatives, especially with companies with limited resources (in the case of Small Medium Enterprises SMEs). These companies are much more sensitive to market changes for which future entry models should balance risk with economic opportunities which the market offers.

About the study, it can be mentioned the necessity of further researching in the effectiveness of specialized events or commercial fairs (trade shows), especially at regional or

local level. Attendance at this kind of event is primarily by local technical personnel who can influence a decision to buy a particular piece of equipment or service, but who do not necessarily possess decision making privileges. Many companies in the sector continue being family businesses whose decisions fall to the leader of the business, who typically makes important decisions, such as to buy at major international events. As one of the subjects of the interviews mentioned casually: “the problem with fairs is that we know what it costs to be present, but we don’t know how much it costs us not to be present.... In that case it is better to be there.”

## **APPENDIX**

### **a. Interview details and persons (Only for internal use not for publication)**

Below, a list of the subjects interviewed can be found. Due to the nature of the research, we do not wish to publish the different opinions assigned in conjunction to the name of the executive or the firm that was interviewed. We consider it is valuable to highlight the differences between the European and North American companies at the time of entering and the Andean markets regardless of position title or the name of the company.

#### **Bill Hricsina**

International Business Manager / General Manager Conair Mexicana & Latin America Sales Manager at the Conair Group  
Conair is a North American Company that produces Auxiliary equipment for the Plastic Industry

#### **Oscar Da Silva**

South America Sales & Service Director at Sepro  
Sepro is a European company based in France that produces robots and automatization solutions for Injection molding machinery.

#### **Miguel Garcia**

Latin America sales director / ARBURG GmbH und Co.  
Arburg is the leading Germany Company in injection molding machinery, robots, and complete injection solutions.

#### **Oscar Rodriguez**

Latin America Manager at Pallmann Industries / Pallmann Industries and Co.

Leading manufacturer of size reduction machinery and systems for the wood, plastic, minerals, chemicals and food industries.

**Jorge Guzman**

International sales manager / MAAG Automatik Inc.

MAAG is a leading North American company with different worldwide locations producing Industrial Pumps, Pelletizing and Filtration Systems for Plastics.

**Christoph D. Rieker**

General Manager / Sumitomo (SHI) Demag, Brazil and Latin America operations.

Sumitomo-DEMAG is a European Japanese Company Leading in injection molding machinery, based in Germany.

**Burkhard Wulf**

Area Sales manager at MTI Mischtechnik International

German Company leading manufacturer of Turbo mixing and auxiliary equipment for PVC Industry.

**Christopher Day**

Sales Manager Latin America / StackTeck Systems Ltd.

StackTeck is a Canadian leading company in the packaging Industry producing molds, tooling and integrated injection systems.

**Robert Harvey**

Vice President - Sales and Marketing / CBW Automation

CBW is a North American company that produces Robots and Automatization systems for the packaging industry.

**Kurt Hell**

Sales Manager / Engel GmbH

ENGEL is the global market leader in injection molding machinery based in Austria.

**b. Interview format.**

The interviews were scheduled prior to the Feiplastic 2015 fair.

1. *Introduction – Briefing.*
2. *Please introduce your company. What does the company do, kind of equipment and tell us about your responsibilities into the company?*

Note: In case the person really has the decision level to enter the market, continue with the interview.

3. *When the company decide to invest in a New Market? What is the condition to invest in? For instance, the Andean Countries?*

4. *Does the company consider the Andean Countries a growing opportunity? Tell us why or Why not?*
5. *Has your company considered other kinds of entry models to convey business in these markets? Tell us which kind?*

Note: Ask for alternative Methods, suggest terms as Joint Ventures, Greenfield, acquisitions and others.

6. *The Decision to assign more resources, depends on the Country Activity (Historical Data) or the perceived market potential?*
7. *Do you consider the Size of your domestic market an advantage or limitation to look for new markets? Explain us why?*
8. *Does your company consider the political atmosphere in the Andean Countries a restriction factor for growing operations or conveying business there? Why?*
9. *Please Tell us, how your company see the political atmosphere in these Countries?*

Note: Ask opinion questions for Colombia, Chile or Peru. Discuss these countries have been improving with GDP increasing and better political and economic atmosphere!

10. *Do you think North American Companies have more/less risk aversion compared with European competition? Tells Why?*

Note: Question's order must change depending the origin of the company, European vs. North Americans.

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