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**Faculty of Juridical Sciences**

**School of International Studies**

**ANALYSIS OF THE SUPPLY CHAIN OF IMPORTADORA  
ELECTRO INSTALACIONES A&A**

**Graduation work prior to obtaining a degree in  
International Studies, Bilingual Mention in Foreign  
Trade**

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**Cuenca, Ecuador**

**2015**

## **DEDICATORY**

This work is dedicated primarily to God, who gives me strength every day. To my parents, who are supporting me unconditionally in the constant struggle for professional success.

To life itself, which has taught me that great things do not come alone, but that perseverance and patience is needed to achieve them.

## **THANKS**

I thank God who gives me the opportunity to achieve my goals and who has blessed me with a great family, good friends and good work experiences that have made me a person with projections, a person with dreams.

I thank Importadora Electro Instalaciones A & A for giving me the opening of an analysis of their supply chain, especially the Manager Atty. Julio Alvarez.

And also, I thank my thesis director, Ing. Antonio Torres, for his continuous support in the completion of my undergraduate studies.

# ANALYSIS OF THE SUPPLY CHAIN OF IMPORTADORA ELECTRO INSTALACIONES A&A.

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## **ABSTRACT**

The Manager of Importadora Cuencana Electro Instalaciones A&A, has identified a problem in the final delivery of the product to the client, and this presumption has led to analyze each element of this process.

Behind the product sale, there is a process called the supply chain; which will be analyzed throughout this investigation through interviews and surveys to participants.

The study of the supply chain also includes theories; nevertheless, there is no exact model to follow as it depends on the activity and the focus of the company.

After analyzing the supply chain of the company, weaknesses will be identified in the management and control, in order to give corrective strategies.

These strategies will be linked to the Deming Cycle of continuous improvement, to clarify the objective sought.

## INTRODUCTION

This work identifies the supply chain of Importadora Cuencana Electro Instalaciones A&A. The analysis is relevant because of two inter-related reasons: first, the importance of the efficient direction of the functional activities through the flow of goods, and the consequent results in the competitiveness and corporate area. According to a study of Consultora Gartner, there are 25 companies that are part of the success rating, for analyzing and designing strategies to empower its supply chain.

The second reason is the presumption of the existence of a problem detected by the General Manager of the company through its clients. In order to identify the weaknesses of the company, it is necessary to verify each link in the supply chain.

The result of this analysis will tell us whether there are shortfalls that may be solved by investing knowledge or economic resources.

For this work there has been a concise study of the logistics of the importations together with interviews with managers and theoretical underpinnings that are transformed into practical guidelines, which become optional strategies in case of shortfalls.

# **CHAPTER 1: ANALYSIS OF THE MANAGEMENT MODEL OF THE SUPPLY CHAIN**

## **Introduction**

This chapter aims to present contemporary definitions about the supply chain and the importance of their implementation and review.

Through the comprehension of each principal element we can realize the importance of knowing and identifying them in the supply chain of Importadora Electro Instalaciones A&A.

Furthermore we will study projections of the management of the supply chain in a world that is gradually evolving, meaning that some steps also go hand in hand with the capabilities of the technology.

The theoretical understanding of the process involved in managing supplies allows us to have a clearer view of the areas of business that cannot be independent from each other. In order to obtain successful processes and final customer satisfaction it is very important to understand that all areas must be interdependent because they all work to reach the same goal.

This document is not intended to develop a specific model of the supply chain, but rather the general conditions that give rise to their formation are displayed, analyzing their philosophy. Consequently, the aim of the chapter is to present a conceptual framework for the supply chain as a reference to the specific knowledge of logistics developments and its components.

## **1.1 Brief history of the supply chain**

In contemporary times and because of the evolution "of the manufacturing and distribution process of the products, the cost of new products and services has decreased, so the commercialization time has been accelerated"<sup>1</sup> In consequence, there is an increase of requirements by customers, local and foreign competitors by the existence of a focus in the line of all the processes involved in the product delivery or customer service.

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<sup>1</sup> YELITZA PEREZ, KIMBERLEY SANTOS. SUPPLY CHAIN MANAGEMENT. Venezuela, 2009.

For this reason, it is important to learn new concepts and methodologies that some companies still do not implement.

A key concept is the supply chain, as a "practice that enables organizations to improve internal processes in order to remain competitive, fully satisfying the market and management.<sup>2</sup>" With this principle companies may achieve more success.

Due to the competitive environment that an organization faces, it is necessary to develop all processes jointly with the relationship that the company has with suppliers and customers of the company. That is how the supply chain adds value by extending the boundaries of companies.

Integrating the company systems is challenging. Some experts state that is not easy to establish an effective sales network that covers all processes from the supplier to the final consumer. However, many authors state that "It is even more difficult if companies are not fully aware of the importance of the supply chain and especially if you do not have a broad conceptual understanding of the logistics philosophy. Hence, the importance of identifying the process according to each case, the basis of its logistics development, its definition, as well as the most important components of the supply chains.<sup>3</sup>"

Besides, it should be emphasized that Internet goes hand in hand with the supply chain. A study from the Institute of Aragon has demonstrated that Internet is an effective instrument in the transformation of management. Internet allows distributors, manufacturers, suppliers and vendors, to work effectively as customers may be capable to manage their own shopping experiences and enhance coordination and connectivity between multiple elements of the supply chain, which will reduce operating costs for the company.

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<sup>2</sup>Instituto Tecnológico de Aragón y Fundación OPTI . Gestión de la Suministro, Estudio de prospectiva. Madrid , 2006.

<sup>3</sup> José Elías Jiménez Sánchez, Salvador Hernández García. MARCO CONCEPTUAL DE LA CADENA DE SUMINISTRO:UN NUEVO ENFOQUE LOGÍSTICO. Ciudad de Mexico : Sanfandila, Qro. , 2002.

Sharing and linking information, and using the advantages of Internet offers companies a first step towards the competitive integration of the supply chain. Yet, the ability to collaborate is what really differentiates the most successful companies from others. For instance, sharing certain programs between the production and sales department reduces uncertainty, so that the products can be delivered quickly, whenever and wherever necessary. With a shorter delivery time, companies can achieve improved business results.

## **1.2 Concepts of Supply Chain**

The supply chain includes certain features, so it can be considered as a "new system of management networks for concatenated merchandise flows, in response to the international massive consume, which results in an implicit territorial planning in the coordinated operation of production goods – distribution"<sup>4</sup>.

It means that the supply chain "is formed by all the parties involved directly or indirectly in the satisfaction of a customer's request."<sup>5</sup> It is to say that in order to meet this objective, it is necessary to monitor and manage the line effectively, not only from the manufacturer and the supplier, but also the carriers, wholesalers, retailers and even the same customers.

For example, when a customer makes a purchase in "Dell Computer; its supply chain includes, among others, the client, the website, the assembly plant, the Dell vendors and its suppliers. The website provides the client with information on the price and a variety of products, and besides the available models, that can be customized by the client.

Once they make a choice, the customer enters the order information and pays the product. Later, they can return to the website to check the order status. In the next stages of the supply chain, the company uses the

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<sup>4</sup>Secretaría de comunicaciones y transportes Mexico. MARCO CONCEPTUAL DE LA CADENA DE SUMINISTRO: UN NUEVO ENFOQUE LOGÍSTICO. Madrid: Sanfandila, 2002.

<sup>5</sup> CHOPRA, SUNIL. ADMINISTRACION DE LA CADENA DE SUMINISTRO. MEXICO: Pearson Educación , 2013.

customer's information in order to buy stock"<sup>6</sup>. With this example we can realize in a practical way how all processes are intertwined.

This example demonstrates that the customer is an integral part of the supply chain. In fact, the main purpose of the study of the supply chain is to reach the satisfaction of the customer needs and to generate a profit. The term *supply chain* evokes the image of a product or supply moving along it, from suppliers to manufacturers to distributors to retailers. Indeed, this is part of the supply chain, but it is also important to visualize the flow of information, funds and goods in both directions. The term supply chain can also mean "only one participant is involved in each stage. Indeed, the manufacturer can receive material from various suppliers and then supply to various distributors. Therefore, most of the supply chains are actually networks"<sup>7</sup>.

### **1.3 Management of the supply chain**

Thomas Stallkamp, director of Chrysler Corporation, created the concept of managing the supply chain. This company is the automotive group of the United States that in 2009 failed after making bad negotiations between the US Treasury and the debtors of the automotive company. Nevertheless, the main factor was the global economic recession.

After this financial disaster, Thomas Stallkamp worked hard to prevent the company's break, so he proposed to establish long-term relationships with suppliers, so they can operate actively in the development and design of products.

For Stallkamp, the relationship with suppliers was crucial because of the financial problems the company was facing. For that reason he improved such reciprocity.

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<sup>6</sup> MEINDL, PETER. ESTRETEGIA, PLANEACION Y OPERACION . MEXICO: PEARSON EDUCACION, 2013.

<sup>7</sup> José Elías Jiménez Sánchez, Salvador Hernández García. MARCO CONCEPTUAL DE LA CADENA DE SUMINISTRO:UN NUEVO ENFOQUE LOGÍSTICO. Ciudad de Mexico : Sanfandila, Qro. , 2002.

Thanks to the close relationships, the demand for suppliers began to grow adding efficiency and punctuality. Thus, the concept of supply chain continued developing until the current conception, which *"refers to the process surrounding the design and development of products, exchange of information through a network of distributors and suppliers, manufacturing and distribution of goods to arrive on time to its final destination, which is the client"*<sup>8</sup>.

However, "due to the rapid development of all business systems, the supply chain management has led to new ways. For example, a company that is dedicated to the transformation and development of a product may be affected drastically as it must be supported with technology to stay competitive according to the market requirements. Thus, it increases opportunities in managing the supply chain and creates a continuous improvement in business processes".

Incorporating the appropriate technology platform has favorable results regarding the ease of interconnection of information, especially on the distribution, logistics, and inventory management. Productivity studies go hand in hand with technology, so they integrate fastening tools that provide timely information, giving objective results to optimize organizational processes.<sup>9</sup>"

Implementing the supply chain management model requires a previous study because it is necessary to recognize the company's structure, and the handling of design, distribution, planning etc. For this, the company must have a strategic level and leave certain common structures.

The main objective is to effectively manage the implementation of principles, to balance the needs of customer service with profitability and growth requirements. It should be noted that a good management of the supply chain would identify all the factors that may cause an interruption in the process.

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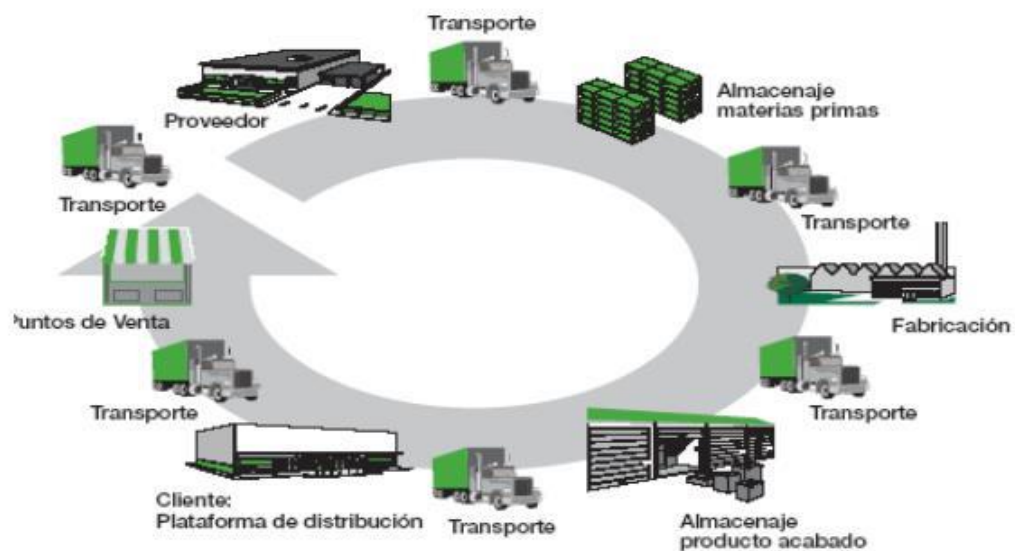
<sup>8</sup> HOYOS, EDER LUIS DURANGO. ALIANZA ESTRATEGICA Y VENTAJA COMPETITIVA PARA LAS PYMES. medellin, 2008.

<sup>9</sup> CHOPRA, SUNIL. ADMINISTRACION DE LA CADENA DE SUMINISTRO . MEXICO: Pearson Educacion , 2013.

The management of the supply chain is evolving thanks to the combination of technology and best business practices worldwide, so the appropriate product is delivered to the final customer in the right place, the right time and the required price.

Consequently, the following chart (Figure # 1) will illustrate the points on which management usually works.

**Graphic # 1. General elements of the supply chain management**



Supplier – transportation – storing of raw material – transportation – manufacture – transportation – storing of final product – transportation – customer: distribution platform – transportation – Selling points – transportation.

Source: Incotec 2012

Made by: Mejía Samanta

Note that a good inventory management precedes the uncertainty caused by certain variations in the course of the chain. That is the reason to analyze the economic order lot.

### 1.3.1 Economic Order Lot

Economic Order Lot, universally known as Economic Order Quantity EOQ, means the lot size that minimizes the total annual cost of ordering and managing inventories<sup>10</sup>. In other words, the EOQ is the balance point where inventory is kept low enough to avoid costs involving excess of inventory but high enough to reduce the frequency of orders.

For this reason, EOQ is used as part of a continuous review system inventory in which the inventory level is controlled at all times and a fixed amount is ordered each time the inventory level reaches a specific point of order.

Likewise, the INC encyclopedia indicates: "The EOQ provides a model to calculate the appropriate order point and optimal order quantity to ensure instant inventory replenishment with no shortage".

The EOQ model assumes these two points:

- The inventory is depleted at a fixed rate until reaching no stock.
- The demand is constant.

This means that we must find a specific number of items to get back the initial inventory, with the result of providing a replacement.

The EOQ model also includes the optimization of costs, so it promises to keep inventory costs (storage costs and the cost of capital commitment in inventory) and costs to order (any charges associated with placement of order or shipping).

To better understand this "inventory model or shopping, I will proceed to exemplify as follows"<sup>11</sup>:

A mechanic uses 3500 gallons of oil per year, paying \$ 5 per gallon, a fixed charge of \$ 15 every time he orders and inventory cost per gallon held in \$ 3 per gallon per year in average.

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<sup>10</sup>Krajewski, Lee J. Administración de operaciones: estrategia y análisis. Mexico, 2010.

<sup>11</sup>AMERICA ECONOMIA . Especiales America Economia. 2012. September 02, 2014 <<http://especiales.americaeconomia.com/2012/comercio-electronico-america-latina-2012/estudio.php>>.

To know the total cost of the costs incurred, it is necessary to apply the following formula:

$$TC=PD + HQ/2 +SD/Q$$

Source: Optimización de orden económico, Soluciones IIE..

Where:

TC: Annual inventory

Q: Price per raw unit.

D: Total number of units purchased in one year.

H: Storage cost per unit \$ 3

Q: Quantity ordered whenever an order is placed.

S: Fixed cost of each order, i.e., a fixed monetary amount that is charged when buying.

The result would be:

TC (Total Cost):  $(5 \times 3500) + (3 \times 350) / 2 + (15 \times 3500) / 350$

$$TC: \$18,175$$

The total inventory cost is \$ 18,175 for the year.

In this calculation, we must take into account that Q is the most variable of all of them because it is the quantity ordered.

With the total estimated cost of inventory, the customer should decide whether to buy determined quantity or vice versa; bearing in mind that if he

asks more quantity, it will mean more fixed expenses. Ordering less means that he will pay less space and there will be less money invested in oil.

Now, assuming that the purchase lowers to 200 gallons, the TC obviously will go down to 18,063 by applying the same formula above.

$$\begin{array}{c} \$18.173 - \$18.063 = \$112 \\ \text{saved} \end{array}$$

Now encouraged by these savings, the customer decreases the quantity shopped, but it may result on a lack of the product stock. So the question is: what is the optimal order quantity?

It is now where the EOQ is the answer. It is noteworthy that the ideal amount of order occurs when the two sides of the following equation are equal

$$HQ/2 = SD/Q$$

Source: Economic Order Quantity (EOQ) INC

Then, this is where the EOQ formula applies.

$$\Rightarrow EOQ = \sqrt{\frac{2DS}{H}}$$

$$EOQ = (3500 \times 15) = 52500 \times 2 = 105000 / 3 = 35000 = 187$$

$$\text{Where: } HQ/2 = 3 \times 187 / 2 = 281$$

$$SD/Q = 15 \times 3500 / 187 = 281$$

This example shows us that, according to the calculation of both equations; 187 would be the optimal amount.

Now calculating the cost:

$$TC = 17.500 + 280,50 + 280,748$$

$$TC = \$18.061.24$$

The cost is lower, with the data given above. As a result, we have:

$$187/3500 = 19 \text{ times the customer has to make the purchase order.}$$

In the event that there is a discount, ie there is a promotion by volume; the formula presented above will be useful to see if it makes sense to take advantage of the promotion.

Offer: If ordered more than 200 gallons, the price would be \$ 4.5 per gallon

Using the above formula:

$$TC = (4,75 \times 3.500) + (3 \times 200)/2 + (15 \times 3500 / 200) = \$17.187$$

In summary, saving \$ 875 per year, consequently it would:

$$3500/200 = 17.5 \text{ times per year the customer must place the order.}$$

Analyzing this example, we conclude that when we solve EOQ formula, we get the result that minimizes total inventory costs of the company.

"The EOQ model is often an acceptable first approximation of the average order size, even if one or more of the assumptions are not entirely applicable.<sup>12</sup>"

Now, if we talk about policies of inventories, it should be emphasized that these are based on the time between two requests for replenishment and not the number of units included in the batch size time. The time between orders, i.e. the days that the customer should do the product refills is called (TBO, for its acronym in English, time between orders). In particular, it is the average time between the applications of two replenishment orders

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<sup>12</sup> Krajewski, Lee J. Administración de operaciones: estrategia y análisis. Mexico, 2010.

constituted by Q (amounts) units, which can be expressed in fractions of year. The TBO is simply divided into the annual demand. <sup>13"</sup>

If the EOQ is used and the time is expressed in months, the TBO is:

$$TBO_{EOQ} = \frac{EOQ}{D} (12 \text{ meses/año})$$

Taking the above example we calculate EOQ and TC:

EOQ: 187

TC: 18061.24

When the above formulas is used, the time between orders can be expressed in different ways:

$$TBO: \frac{EOQ}{D} : \frac{187}{3500} : 0,0534285 \text{ year}$$

$$TBO: \frac{EOQ}{D} (12 \text{ months}): \frac{187}{3500} (12) : 0,641 \text{ months}$$

$$TBO: \frac{EOQ}{D} (52 \text{ weeks/ year}) = \frac{187}{3500} (52) = 2.77 \text{ weeks}$$

$$TBO: \frac{EOQ}{D} (365 \text{ days/year}) = \frac{187}{3500} (365) = 19.50 \text{ days}$$

In conclusion the TBO formula calculates the time of ordering to replace the stock, with the price and the number of times of application, according to the above calculated.

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<sup>13</sup>Krajewski, Lee J. Administración de operaciones: estrategia y análisis. Mexico, 2010.

## **1.4 Information and Communication technology in the context of supply chain**

### **1.4.1 Introduction of ICT**

The role of information technology in the supply chain management is to have "on-line real-time integration of all major activities"<sup>14</sup>.

The new era of technology has given several opportunities for improvement in administrative, scientific, philosophical, and other areas. The application of ICT to the supply chain improves relations between companies through web markets (e-business, business to business, business to customer, and e - CMR) offering a more contemporary connectivity.

Thus, the information technology in the supply chain can provide timely, economic and shared information between suppliers, producers, brokers, logistics service providers and customers.

For example, "retailers need timely and accurate information concerning the demand for Apple iPhones to plan inventory requirements and request additional products. Besides, Apple may use the information of retailer orders in order to purchase necessary components from their suppliers and contract manufacturers to build additional iPhones"<sup>15</sup>. If each organization in the supply chain operates without this information, it would be very difficult to maintain an adequate flow of the correct amounts of components and correct models. In consequence, a poor information flow would cause a shortage of vendors and a surplus of unwanted models.

That is, "the key is to align technology with the processes of the supply chain and information requirements."<sup>15</sup>

Due to the potential of information technology, organizations have invested huge amounts of money to gather information, analyze it and use it more effectively in the supply chain.

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<sup>14</sup> Rodríguez, Alejandro Patiño. «UNIVERSIDAD POLITÉCNICA DE VALENCIA .» 2008. UNIVERSIDAD POLITÉCNICA DE VALENCIA . August 25, 2014  
<<http://riunet.upv.es/bitstream/handle/10251/12380/TESIS%20DE%20MASTER%20FINAL%202008.pdf>>.

<sup>15</sup> CHASE, RICHARD B. ADMINISTRACION DE OPRACIONES, PRODUCCION Y CADENA DE SUMINISTROS. MEXICO: McGraw-Hill , 2010.

Information technologies must evolve as supply chains become global, complex and driven by demand. To stay ahead of the curve of evolution, it is inexorably necessary for companies to seek a competitive level of performance in its supply chain and adopt the necessary technologies.

Organizations supply chain are under intense pressure to meet the demands of closer relations with the customer, lower the cost of goods sold and increase business processes globally" <sup>16</sup> , says Beth Enslow, Senior Vicepresident of research for Aberdeen Group.

#### **1.4.2 Analysis of information technology and communication**

With the results that can give us the use of technology, we can realize that it is necessary to evaluate and simultaneously analyze the information requirements both inside and outside the company and how to process the information. Also, we will be able to consider the business areas that require a higher standard of connection, which will gain a greater advantage.

This preliminary estimate will help the company to implant the technology in key points, to solve critical business problems or use right technology in order to optimize resources. Thus, the tools evolve.

Reuven Levary professor at the Institute of Technology of Israel, indicates: "ICT is very useful in the supply chain as it can provide potential benefits such as reduced cycle times, decrease of inventory and improvement of distribution channels."<sup>17</sup>

A key point is the distribution channel, which is making great dynamism by the influence of technology.

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<sup>16</sup>Bloomberg Businessweek. Bloomberg Businessweek. s.f. August 27, 2014  
<http://investing.businessweek.com/research/stocks/private/person.asp?personId=9758731&privcapId=24163&previousCapId=24163&previousTitle=Aberdeen%20Group,%20Inc.>

<sup>17</sup> Levary. Supply chains through information technology, Industrial Management. United States , 2000.

Business processes, strategies and organizational structures, which are the main subject of inevitable change, cause the dynamism. The direct influence of ICT requires finding and implementing the benefits it provides in every link of the company, and even more in the distribution channels.

Before establishing the direct relationship of the channel with ICT, we should describe the channel as: "A value system that the manufacturer and distributors are responsible for delivering the products to the final consumers under appropriate conditions of place, time and form."<sup>18</sup>

The distribution channel works by several interconnected flows where at least one member must take responsibility for others. That is the reason why the distribution channel is an example of work division, ensuring an independent but systematic work. Distribution channel must be studied as a whole.

Currently, information technology is influencing every distribution channel flows, so it "may be replaced by electronic means or even become redundant and completely disappear."<sup>19</sup>

Most of the impact of these new technologies has to do with the movement of inventories. According to Juan Sanchez, in his Doctorate in Business Administration at the University of Granada, "The application of intensive concepts in information technology such as JD, are responsible for reducing the time that the product takes to go through the distribution channel, which means lower inventories and hence the funding needs is reduced".<sup>20</sup>

It is true that the proper use of information significantly reduces the distribution channel costs, which means a cost to the final customer. For this reason the "use of information technology systems may be the most influential technological advance of distribution channels."<sup>21</sup>

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<sup>18</sup>Fernandez, Juan Sanchez. El intercambio Electronico de Informacion en Canales de distribución. Granada , 2010.

<sup>19</sup>Fernandez, Juan Sanchez. El intercambio Electronico de Informacion en Canales de distribución. Granada , 2010.

<sup>20</sup>Fernandez, Juan Sanchez. El intercambio Electronico de Informacion en Canales de distribución. Granada , 2010.

<sup>21</sup>Fernandez, Juan Sanchez. El intercambio Electronico de Informacion en Canales de distribución. Granada , 2010.

The impact of information technology in distribution flows is also important, as we can see in the following table.

**Table # 1. - Flow distribution**

<b>Channel Flow</b>	<b>Changes in the flow channel due to use of information in the channel</b>
Physic Possession	Lower level of inventory at the retail level.
Promotion	More personalized promotions, due to access to the customer databases.
Negotiation	Better negotiating relationships.  Focus on the negotiation itself but not in the paperwork.
Financing	Better financing requirements due to reduced physical possession.
Risks	It enables better risk forecasting, reducing inventory risk.  Major delays thanks to the quick response of technologies, reducing speculative stocks.
Orders	Orders Automatic orders involving the virtual elimination of human intervention.
Payment	Electronic payment systems automate the process.  Increased use of electronic means of payment.

Source: America Economía magazine

Made by: Samantha Mejia

The use of ICTs causes a reduction of time, less distances, alteration of structures and the increase of innovating objectives.

In Conclusion, ICT helps companies to overcome coordination problems, resulting in a solution and way of control, which allow the inter-organizational restructuring.

#### **1.4.2.1 Advanced Planning and Scheduling (APS)**

According to the dictionary of business management and marketing, APS is a resource planning system where programming of supplies is detailed. APS system can be implemented in companies with mass production and very diversified industries. In companies that deal with many manufacturing tasks, "activities can be organized efficiently by sections, reducing times of late delivery and reducing operating costs"<sup>22</sup>.

The APS allows "to agree and comply delivery deadlines of sales orders of its clients, synchronizing production, sequencing and better use of materials, human resources and capacity production, aligning them with their business goals"<sup>23</sup>.

By implementing an APS system, the interaction and relationship with the customer may improve. Besides, administrative costs and the resolution time of urgent commitments are reduced. In consequence, time planning and manufacturing will be significantly reduced.

"The use of an **APS (Advanced Planner Schedule)** is positioned as one of the best alternatives available to industries that require advanced planning

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<sup>22</sup> PLANEACION DE RECURSOS EMPRESARIALES. April 05, 2010. September 01, 2014 <<http://www.erpblog.com.mx/aps-advance-planner-schedule-y-la-planeacion-avanzada/>>.

<sup>23</sup>Vega, María José Hercila. *SISTEMAS ERP*. 2008. September 01, 2014 <<https://sites.google.com/site/sistemaserp1/7-2-planificacion-y-programacion-avanzada>>.

systems, especially adapted to the requirements of large-scale companies that employ processing systems mass with different types of products"<sup>24</sup>.

#### **1.4.2.2 The E-Commerce**

E-commerce is the "distribution, sale, purchase, marketing and supply of information of products and services through the Internet"<sup>25</sup>.

According to the magazine "América Economía" *Electronic Commerce in Latin America in 2012*, "the total revenue from the sale of consumer e-commerce in Latin America almost doubled in the past two years from \$ 21,775,000 to \$ 43,231,000 and growth biennial of \$ 98.53%"<sup>26</sup>.

E-commerce has become a boom in companies by the results it has generated.

There are four types of e-commerce:

##### **1.4.2.2.1 Business - to customers (B2C)**

B2C is the strategy developed by trading companies to reach the customer directly.

This strategy reduces prices and costs at the infrastructure level, when points of sale are not enough. Purchasing the product will be much more convenient and faster and prices will be always updated; however, we must care for security at the time of purchase.

Pricing is critical in the supply chain, since it is related to profitability without leaving aside the proper handling of logistics.

In this type of purchase there are companies that ease transactions between buyers and sellers who profit a percentage for their service. Other

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<sup>24</sup> PLANEACION DE RECURSOS EMPRESARIALES. 05 de abril de 2010. September 01, 2014  
<<http://www.erpblog.com.mx/aps-advance-planner-schedule-y-la-planeacion-avanzada/>>.

<sup>25</sup> Guía práctica para el desarrollo de plataformas de comercio electrónico en México. Red de empresarios Visa . s.f. September 02, 2014  
<<http://www.redempresariosvisa.com/Ecommerce/Article/que-es-e-commerce-o-comercio-electronico>>.

<sup>26</sup> AMERICA ECONOMIA . Especiales america economia. 2012. September 02, 2014  
<<http://especiales.americaeconomia.com/2012/comercio-electronico-america-latina-2012/estudio.php>>.

companies sell advertising to interested parties, which make easier this innovative way of trading.

#### **1.4.2.2.2 Business-to-Business (B2B)**

By this business model, the contact with suppliers is much faster and feasible, as it provides an effective acquisitions management, reduced administrative costs, etc. The diversification of supply sources involves reducing acquisition costs and greater efficiency in purchase procedures. These are the main areas in which there would be a cost saving of company value.

As a practical example, Corporation Favorita C.A. developed the B2B information system, and allowed its suppliers to review their position in the company without any personal contact.

It says on their website: "The system manages the information provided by other systems and is presented to the user in a clear and simple way. Also, this system allows a quicker entry of important information for "Corporation Favorita".

"The relationship with our suppliers now has mechanisms for continuous improvement in the processes that become part of a B2B. This system has been created with the purpose of automatizing, monitoring and providing better information of both internal and external customers of the company"<sup>27</sup>.

This system creates a community of business on the web, offering a technology platform that allows companies to save costs. These are operations that improve competitiveness and create more opportunities.

#### **1.4.2.2.3 Business to Administration (B2A)**

B2A are all the transactions between different companies and government organizations.

For example in the United States the "government regulations are advertised on the Internet and companies can perform electronically. In addition,

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<sup>27</sup> CORPORACION LA FAVORITA C.A . PORTAL PRIVADO . s.f. September 04, 2014 <<https://www.slf.com.ec/b2b/inicio.do#>>.

administrations can also offer the option of electronic exchange for certain transactions such as paying administrative and corporate taxes"<sup>28</sup>.

"This system allows companies to establish business or legal relationships with government organisms, in order to provide products or services to them."<sup>29</sup>

It also helps administrations to save time and money, and also the market (products and offer) can be compared transparently.

The influence of technology and its derivatives have contributed significantly to the modernization of the state. An example is "The National Public Purchase System" in Ecuador.

All state institutions require the acquisition and procurement of goods and services, which are the key areas of purchase. Through this website, the Ecuadorian production has more chance of meeting demands.

Implementing this website in Ecuador is a synonym of increasing capital for the national productive sector and encouraging the improvement of professional and specialized services, avoiding the purchase of imported goods.

The Ecuadorian President, Ec. Rafael Correa, in a newsletter from 2008 "presidential speech about the recruitment system", said that the public purchase will lead us to an innovative and convenient plan to organize the state, establishing rules that will benefit in a long term. In his words, "Just by improving the vendor selection phase and simplifying the tasks associated with the proceedings, Korea has saved 2.5 billion dollars. The e-purchase system cost 26 million; the United Kingdom saved 3 billion pounds by implementing best practices in complex procurement processes; and

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<sup>28</sup> COMERCIO ELECTRONICO . INFORME SOBRE E-COMMERCE DE ALUMNOS DE ANALISTA DE SISTEMAS DE LA ESCUELA SUPERIOR DE COMERCIO MANUEL BELGRANO. s.f. September 04, 2014 <<http://comercioelectronico-sistemas.blogspot.com/>>.

<sup>29</sup> González, Laura V. BUSINESS TO GOVERNMENT (B2G) EN VENEZUELA. Venezuela: UNIVERSIDAD NACIONAL EXPERIMENTAL POLITÉCNICA DE LA FUERZA ARMADA BOLIVARIANA DECANATO DE INVESTIGACIÓN Y POSTGRADO UNEFA, 2011.

Guatemala's health sector saved 43% in 1999 to change the requirements of technical specifications in the acquisition of medicines"<sup>30</sup>.

In conclusion, the practice of public purchase - a result of the implementing the system B2A- would promote domestic production and the participation of micro, small and medium companies with competitive offerings.

#### **1.4.2.2.4 Business to Employee (B2E)**

This model relates companies with employees, i.e. "the employee can perform his functions in the business processes of the company".

"OPTIMIZED STORES" website quoted the AVON campaign, that offers discounts by volume, when purchasing products by the respective dealers through its on-line store

This model offers many advantages because the employee becomes loyal to his employer company, as he can purchase products with discounts and payment options.

#### **Conclusion**

The continuous search for better results in business management has been successful in the emphatic study of the supply chain, thanks to its multiple benefits.

Successful companies cases have been given as examples, as they are relevant cases to analyze different types of business.

The chain identification becomes possible because its analysis is focused not only in one link of the chain, but also in the whole process. Such identification may contribute to the weakest areas, providing innovative solutions.

The ICTs in the modern world are taking importance, because their effects have been applied to most companies. Planning systems, advanced programming APS, supply planning and scheduling business systems planning (ERP) enable the integration of business operations.

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<sup>30</sup>Correa Rafael. «Public Procurement Speech» 04 de 2008 .

There are many aspects that encourage the improvement of the supply chain. Such processes allow the implementation of distribution strategies, which provide it with solutions to minimize the time of supply.

With these favorable results, there is no doubt that an increased knowledge of the supply chain provides strategies that are constantly used to provide solutions to strengthen the overall process.

## **CHAPTER 2. IDENTIFYING THE MANAGING MODEL OF ELECTRO INSTALACIONES A & A SUPPLY CHAIN.**

### **Introduction**

This chapter presents the managing model of Electro Instalaciones A & A supply chain. The entire sequence of processes and the different stages to satisfy the customer's needs will be detailed in this chapter.

Analyzing each link in the supply chain will allow us to identify the elements that would prevent the achievement of the objectives of the supply chain.

Electro Instalaciones A & A is a company that has been operative for 27 years in Cuenca. This company imports, commercializes, and distributes products and services; and also provides technical assistance, aiming to satisfy their customer's needs.

The company imports electrical, telephonic and audio equipment and other products from China, Brazil, United States, Colombia, Panama and Taiwan.

Identifying the chain becomes even more intriguing for the company. However, it is also considered as a key and influential point for a systematic and specific analysis of the chain.

### **2.1 Description of the Organization**

#### **2.1.1 Company Background**

Electro Instalaciones A&A entered the Cuenca market as a venture company of Julio Alvarez in 1986. At that time the company started their commercial activity in a leased establishment of 28m<sup>2</sup> in the street Mariano Cueva between Simon Bolivar and Mariscal Sucre, remaining in this establishment for 13 years. (Alvarez)

In 1999 the company was transferred to a separate establishment, becoming the matrix itself. The new establishment is located in the street Manuel Vega 7-50 and Mariscal Sucre. Given the subsequent demand that occurred in the company, the manager decided to proceed with the

opening of the first branch in 2006, located in the streets Viracochabamba and Pachacamac S / N, near the market "12 de Abril".

In 2008 the company opened a second branch located in Bartolomé Serrano Shopping Center, in Azogues City. The result obtained in this branch was not the expected. The establishment lasted on the market one year due to lack of demand, lack of marketing, lack of trustworthiness of the local consumers, stereotypes in the mall prices, as customers think that Cuenca is always cheaper. Therefore the company went through a decline in its domestic economic system due to losses caused by this branch. (Alvarez)

Due to the need of more physical space for imports and inventory, the company built an industrial warehouse, located in El Valle - Santa Ana way, km. 13.

On the other hand, the company registered the trade name and trademarks in the Ecuadorian Trademark Office:

- Trade name: Electro Instalaciones A & A (2013)
- Four trademarks: EILUM, EILINK, EIBEST, EIQUALITY (2013)

Also, it is important to detail below both its on and its vision.

### **Mission**

"The principal purpose of ELECTRO INSTALACIONES, is the marketing and distribution of electric and telephonic equipment, structured cabling, among others; and the development, design and construction in Electrical Engineering, using the best brands that meet quality standards according to current technological requirements, which seeks to provide total customer satisfaction and help develop the community and the environment in which we live". (Alvarez).

### **Vision**

"To consolidate as a strong and competitive company, leader in: commercialization and distribution of electrical and telephonic materials, structured cabling, telecommunications and Electrical Engineering Technical Service. The company imports products and brands that meet current

standards and brings ongoing training to administrative, commercial and technical personnel, to deliver quality service according to the requirements of today's world."(Alvarez)

### **2.1.2 Products and / or current and new services**

Below are the most important products of the company's product line.

**Table # 2: Electro Instalaciones Product Lines**

<b>Lighting:</b> <ul style="list-style-type: none"> <li>○ Decorative lighting</li> <li>○ Commercial lighting</li> <li>○ Industrial lighting</li> </ul>	<b>Wires:</b> <ul style="list-style-type: none"> <li>○ Electric wires</li> <li>○ Drivers</li> </ul>
<b>Intercom and electrical safety:</b> <ul style="list-style-type: none"> <li>○ Intercoms</li> <li>○ Access control</li> <li>○ Door breakers</li> <li>○ Detectors</li> </ul>	<b>Middle Voltage:</b> <ul style="list-style-type: none"> <li>○ Transformers</li> <li>○ Hardware</li> </ul>

Source: Electro Instalaciones

Made by: Samantha Mejia

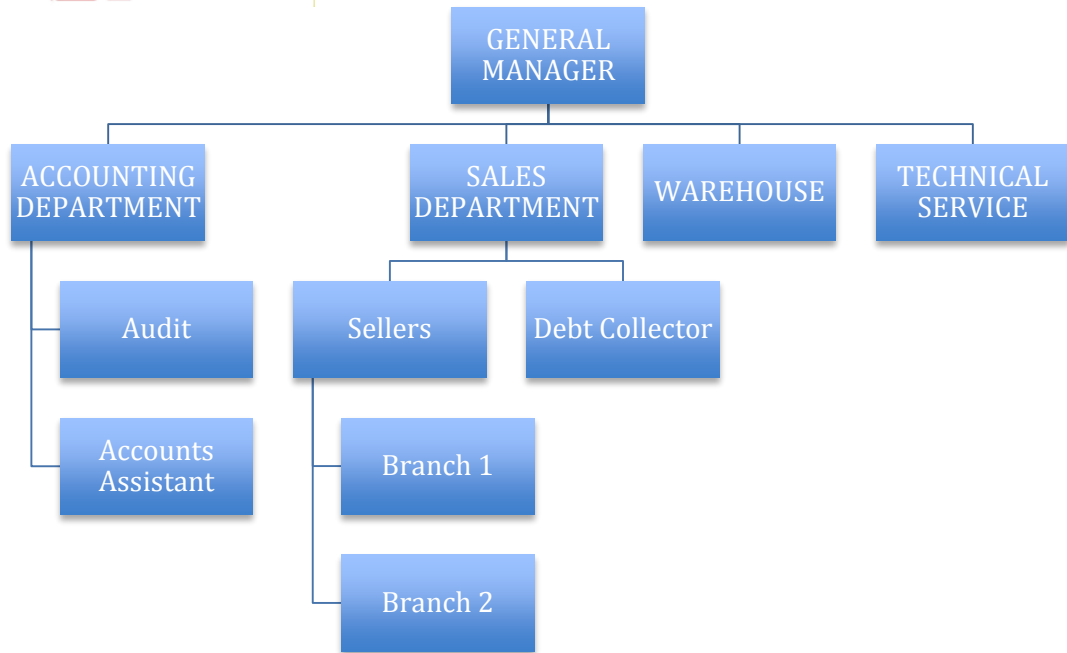
### **2.1.3 Organizational Structure**

Electro Instalaciones is considered a family business, as many employees are hired directly by the General Manager Julio Alvarez because they are relatives, previous an interview before being placed in their respective jobs. The reason for hiring relatives is the confidence they place on them.

Thus, the company has today 34 employees, who work in the principal office, in the branch and in the store, in their respective positions. Electro Instalaciones has a Manager, who is responsible for overall control of the company, and recruitment of staff. The company has also three additional departments that are the area of accounting, the sales area and technical service, plus a product warehouse for all imports arriving directly.

In the table below you can see how the company is structured:

Graphic # 2. Organizational structure of the company Importadora Electro Instalaciones A&A.



Source: Electro Instalaciones A & A

Made by: Electro Instalaciones A & A

## 2.2 SWOT Analysis

The SWOT analysis is an indispensable tool in this research as it allows taking a "radiography" of the current situation of the supply chain of the company. We are going to analyze "the Strengths, which means the capabilities and skills that the company owns; the Opportunities, which are favorable factors that can be discovered by the company; the Weaknesses which are unfavorable points in contrast with the competition and Threats, which reflect situations that come from the environment and that can seriously affect the organization.<sup>31</sup>"

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<sup>31</sup> AMERICA ECONOMIA . Especiales america economia. 2012. September 02, 2014  
<<http://especiales.americaeconomia.com/2012/comercio-electronico-america-latina-2012/estudio.php>>.

Table # 3. SWOT Analysis

STRENGTHS	OPPORTUNITIES
<ul style="list-style-type: none"> <li>✓ Internationalization of the imports.</li> <li>✓ Use of informatics systems (BITS 3.1)</li> <li>✓ Updated information in the web page of the company.</li> <li>✓ Better company's reputation.</li> <li>✓ Integral services: material commercialization and technical services for installations.</li> <li>✓ Wide range of products.</li> <li>✓ Large selling volume.</li> <li>✓ Uninterrupted customer service.</li> <li>✓ Punctual deliver in products and services.</li> <li>✓ Certified products.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Market target not covered.</li> <li>✓ Possibility of participation in international events.</li> <li>✓ External reliability.</li> <li>✓ More opportunities for financial benefits.</li> </ul>
WEAKNESSES	THREATS
<ul style="list-style-type: none"> <li>✓ Unstable working climate.</li> <li>✓ Lack of local coverture in the local market.</li> <li>✓ Lack of a Human Resources department.</li> <li>✓ Lack of identification of the supply chain.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Customs barriers.</li> <li>✓ New companies of the same sector in the same market.</li> <li>✓ Massive dependence of an specific segment.</li> </ul>

Source: Electro Instalaciones Made by: Samantha Mejia

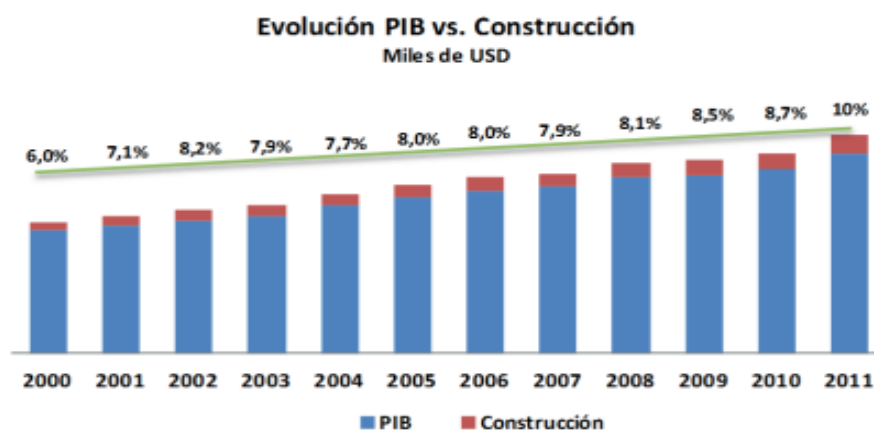
In section "threats" we note that it depends on the supply. That is the reason why the company should distribute its portfolio well and reduce risks.

### 2.2.1 Market Share

Electro Instalaciones has an opportunity, as it should cover more market share. This is because the company provides new construction materials and depends on this share to continue its growth.

According to the National Institute of Statistics and Censuses "INEC", the construction industry has grown sustainably over 10 years, and that will be no exception as they are providing more permits.

Chart No. 3 .- Evolution of GDP vs. Construction



Source: Central Bank of Ecuador

Prepared by: Office of Economic Statistics, INEC

This fact may be beneficial for the company; however, the dependence on the construction sector increases the risks in terms of supply and demand.

### 2.3 Analysis of the Logistics of Electro Instalaciones A&A

Through a study of the major functions of the company and its development, we will have a perspective on the performance of the supply chain.

This analysis will be focus on key customers, suppliers and products, because in that way, the functionality of the supply chain will be summarized with objectivity.

### **2.3.1 Market**

#### **2.3.1.1 Current and Potential Target Market**

As Electro Instalaciones A & A offers electrical and technological products, the company is focused on specific segment specialists, like: engineers and electrical technicians, civil engineers, architects, systems engineers, electrical and technological stores and a marginal market which is the general public. As we said, the company is not limited to the aforementioned type of client; and is also focused on the general public in order to create the need to purchase products mentioned before.

However, most costumers are specialized. Below, the principal ones will be mentioned:

#### **2.3.2 Customers**

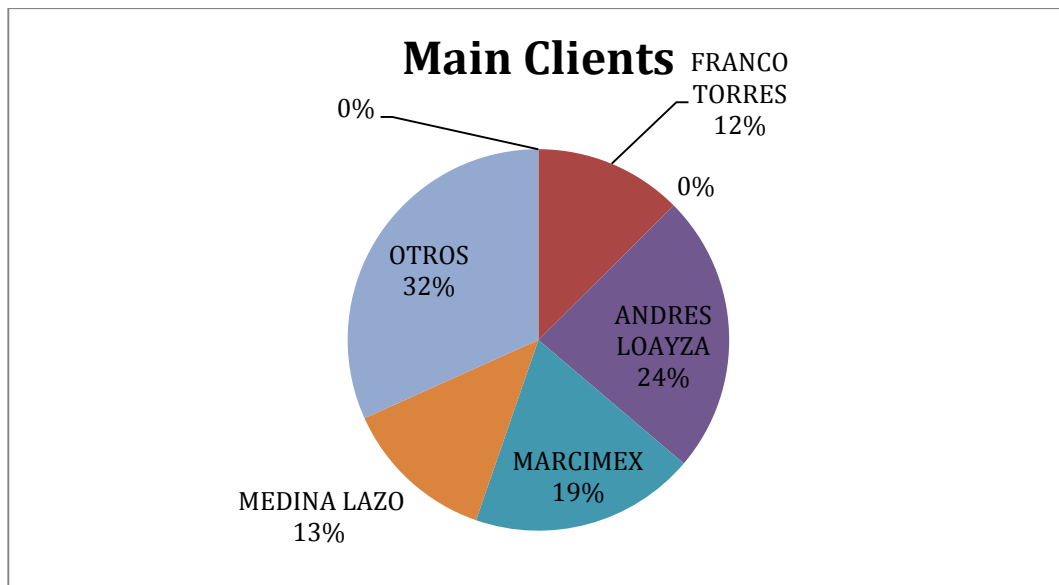
Throughout all the years of presence in the market the company has gained a number of customers for its quality of service and value, so it has been considered as a major supplier. In order to define the principal clients, it is not enough to consider the amount of purchase made, but the constancy in purchasing products.

The year 2014 was analyzed, mainly because the aim of this study is to provide possible improvements to the most recent situation. In the interview with the manager, we came to the conclusion that his experience, plus statistics provided by the BITS program, results on avoiding the customer's subjectivity.

Electro Instalaciones currently has a portfolio with more than 535 regular customers.

Figure 4 indicates the principal customer.

Graphic # 4. Customers Electro Instalaciones A & A



Source: ELECTRO INSTALACIONES, SOFTWARE: BITS 2014

Made by: Samantha Mejia

As you can see in the chart above, there are four main customers who have been clients for a considerable time. Below, each client's case will be analyzed in detail.

#### 2.3.2.1 .- Andres Loayza Fernández, main customer

This customer purchases the company products since 2013. Mr. Loayza has an electric products store in one of the areas with more fluctuation of hardware market. For this reasons he has become the largest customer with 24% of intervention in final sales.

He has not requested any additional requirement to the company, as he is already benefited from the "best price" – maximum benefit between discount and wholesale prices- on every purchase made.

Mr. Loayza also makes the order application by phone, where it is taken as accurately as possible - and the purchase order is dispatched as soon as possible.

The most demanded items from this client are piping products and accessories such as:

- Cable link

- Cable terminals
- Screwed brass sleeve
- Terminal Blocks
- Key Markers
- Conduits or PVC

#### **2.3.2.2.- Marcimex, customer**

Marcimex is a company that commercializes electrical appliances and home solutions with extensive experience in the domestic market for its price and ease of purchase.

As a popular company in Ecuador, Marcimex participates with 19% of purchase share in Electro Instalaciones. chose to work with Electro Instalaciones since 2010. Each quarter of year, the customer receives a call from the company, which alerts them about the places that need inspection.

Electro Instalaciones offers the service at the day and time required by Marcimex. In addition, each technical visit requires a high amount of material. For this reason it is one of the main customers of Electro Instalaciones.

Similarly, Marcimex received the best possible price for the products they purchase:

- Drivers
- Meters
- Switches
- Drivers
- Fuses
- Different types of luminaires
- Push etc.

#### **2.3.2.3 .- Pedro Medina Lazo, customer**

Pedro Medina Lazo is the current president of the Chamber of Construction of Cuenca, which is one of the main customers of the company -13% of total

purchase-. Mr. Medina is an Electrical Engineer and owner of construction companies that are dedicated to build apartments in residential areas.

As his principal constructions are apartment buildings aimed for people who have economic resources, the main products demanded by this customer come from the supplier "INDUSTRIAS SICA" which differs from other suppliers by the product's aesthetics, models, colors and innovations.

The main products bought by Mr. Medina are:

- Light switches
- Audio Accessories
- Safety Equipment
- Portholes
- Different types of lamps

#### **2.3.2.4.- Franco Torres, customer**

This client has been part of the sales since the beginnings of the company – constituting the 12% of current purchase - and by the purchase volume he is one of the principal customers.

The customer started as an electrician. With the time, effort, achievement and an entrepreneurial mind, he established his own company "T & B Instalaciones," which offers all kind of electrical equipment.

The relationship between the customer and the manager of the Electro Instalaciones A&A is so close, that he has being invited to international exhibitions and conventions.

We asked to Mr. Julio Alvarez if he has had some uncertainty about the incentives that he is giving to his customer to grow and be a possible competitor, but he said that "there is enough market for everyone and it is good to see people grow."

In fact, the T & B Instalaciones market share is focused on providing small amounts of specific products for people with small needs. So, it really does not affect the vision of Electro Instalaciones A&A.

From a macro perspective, Electro Instalaciones A&A attempts to keep customers under these principles:

- Good prices
- Personalized attention, directly with management department.
- Good service
- Free transportation of products

What is really important in the relation between company – customer, is that the company always puts the needs of the consumer as a priority, i.e. if there is some extra requirement, they always seek the fastest solution, without ignoring the company's policies. Thus, creating a close relation with the customer, trying to place themselves in their "shoes".

Likewise, customers have credit lines from 30, 60 and up to 90 days. The manager gives credits not for the amount purchased, but because of the trust that is placed on its clients. They also receive an additional discount, if the company is able to give one.

Due to current strong competition, the company always tries to anticipate new trends in computer network systems and cabling, thus providing differentiation.

### **2.3.3 Suppliers**

With 27 years of experience in terms of marketing and importing electrical equipment, the general manager knows the area in which it operates and in which it is designed. For this reason he has experience in capturing contacts and negotiations.

He has continually attended international fairs such as:

- Lighting Expo America
- Canton Fair
- Expolux Sao Paulo
- Belektro Berlin
- Illuminotronica Padova
- International Fair of Bogota, Medellin
- Electroniamericanas

Thanks to all the contacts that have been made at this time, the manager has contacted 18 suppliers:

**Table # 4. International Providers of Electro Instalaciones A&A**

<b>AMERICAN LITE</b> <b>From:</b> United States	<b>PHILIPS COLOMBIANA S.A.S</b> <b>From:</b> Colombia
<b>ELECTRO ENCHUFE S.A.C</b> <b>From:</b> Peru	<b>SHANGHAI WELLMAX LIGHTING INDUSTRY CO.LTD</b> <b>From:</b> China
<b>FURUKAWA INDUSTRIAL SA</b> <b>PRODUCTOS ELECTRICOS:</b> <b>From:</b> Japan	<b>UNI- VICTORY ENTERPRISE DEVELOPMENT LIMITED</b> <b>From:</b> China
<b>GUANDONG ROULER ELECTRONIS</b> <b>From:</b> China	<b>UNITE INTL ILUMINATION CO. LTD.</b> <b>From:</b> China
<b>HANGZHOU TIMES IMPORT AND EXPORT CO LTD</b> <b>From:</b> China	<b>YANGYE ELECTRICAL APPLIANCE CO. LTD</b> <b>From:</b> China
<b>HECHENG ILLUMINATION</b> <b>From:</b> Hong Kong	<b>ZHOGSHAN BOHUI OUT DOOR</b> <b>From:</b> China
<b>INDUSTRIAS SICA SAIC</b> <b>From:</b> Argentina	<b>KAI SHU SHU ENTERPRISE CO. LTD</b> <b>From:</b> China
<b>NINGBO VICHNET COMMUNICATION SCIENCE</b> <b>From:</b> China	<b>NEWLINK CABLING SYSTEMS INC</b> <b>From:</b> United States

Source: Electro Instalaciones A&A

Made by: Mejia Samanta

From this list of providers that the company currently has, most are known through international trade fairs and conventions mentioned above, resulting in lasting "WIN-WIN" business relations.

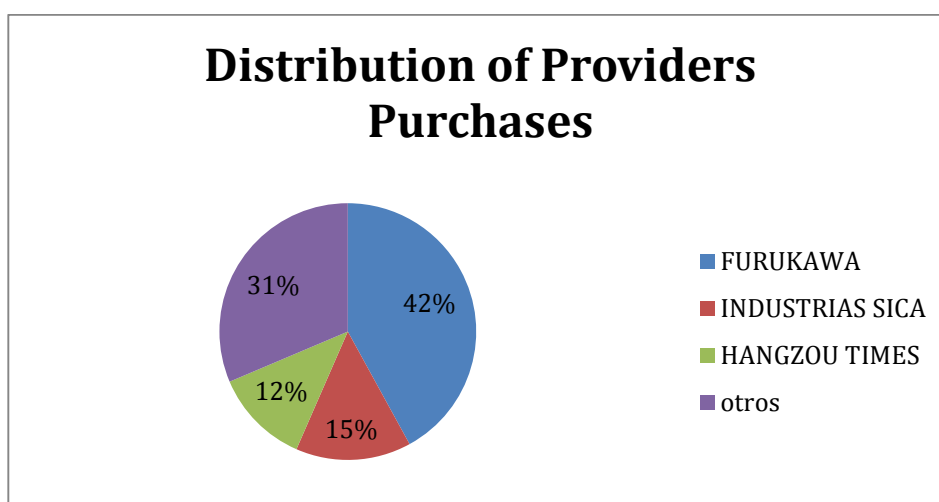
This idea is generated by the trust fostered in these relationships. That occurs due to the direct contact with the supplier - especially with the valued Chinese suppliers – and by accepting most of the mutual invitations.

Also, both companies should meet requirements as a long-term priority. Through these actions, there are opportunities for both parties.

Certain suppliers, who make constant purchases of considerable amounts, are considered vital for the organization.

In the following chart, the composition of international suppliers is detailed, as well as the participation of each one.

**Graphic # 5. Major Providers of Electro instalaciones A&A**



Source: Bits 2014; Electro Instalaciones A & A

Made by: Samantha Mejia

As you can see "FURUKAWA INDUSTRIAL S.A PRODUCTOS ELECTRICOS" has a 42% of participation, followed by "INDUSTRIAS SICA" with 15% and "HANGZHOU TIMES IMPORT AND EXPORT CO., LTD.", with 12%. The other 31% are the other 15 suppliers.

#### **2.3.3.1 – FURUKAWA INDUSTRIAL S.A. PRODUCTOS ELECTRICOS"**

This company was founded "in 1884 in Japan. It operates in the areas of telecommunications, electronics, automotive systems, energy, metals and services. It is present in major world markets: North America, Africa, Asia, Europe and Latin America"<sup>32</sup>.

Furukawa detected a potential market in Brazil, from where wires are manufactured and complete solutions for telecommunications infrastructure are managed.

However, Furukawa have strengthened its presence in Latin America, in partnership with its distributor, presenting a complete portfolio in Colombia. Furukawa is working to empower the brand, so it will have a significant influence in the near countries. Paulo Henrique Zafaneli, export manager,

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<sup>32</sup> FURUKAWA ELECTRIC . FUNDACION FURUKAWA ELECTRIC. s.f. November 18, 2014 <<http://www.furukawa.co.jp/english/>>.

indicates that: "Colombia is an important market in Latin America and the efforts that we have focused to position on this market are beginning to bring results. We want to grow and strengthen the brand Furukawa in the country. "

Indeed, Electro Instalaciones has prompted purchases with Furukawa in port Buenaventura. Since 2011, Furukawa is part of the suppliers of Electro Instalaciones, managing credit with confidence thanks to the remaining negotiations.

This provider is focused not only on the amount of purchase but also in how the trademark is represented, because that allows the company to be positioned and also it may have better long-term results.

The way business relations are strengthened is through the "Electricity Fair in Colombia – Medellin", which is held every two years, in order to contribute with the development of the region. It is also an opportunity to increase sales and participation in national and international markets. In consequence, due to attendance at the fair, and subsequent meetings, this company was able to establish the distribution of its products to the south.

Other areas of the country are covered by:

- Guayaquil: Vission Line
- Quito: Latinoamerciana TCA

Furukawa considers that a segmented distribution would be better, because the service could further its potential.

The new restrictions imposed by the government to safeguard national production have not directly affected importations. Thus the company is not affected in this regard.

#### **2.3.3.2.- INDUSTRIAS SICA**

Industrias Sica is an Argentinean company with 55 years in the market with a significant presence in South America. Its products are "intended for the construction sector, specifically electrical equipment. The items are

manufactured under ISO 9001 and ISO 140001 quality standards, being the first company in Argentina to achieve these certifications. It has a logistics center in Buenos Aires and a modern industrial plant of 5000 m2 located in San Juan, Argentina."<sup>33</sup>

The negotiations with this renowned company began thanks to a supplier in China, which contacted the company with Industrias Sica in Latin America. The manager did not hesitate to contact them, due to the good reviews regarding the Argentinean Company.

Trade relations between both companies began in 2013, establishing a credit of 30% in advance and 70% credit - against BL-. There has not been any problem in few payments, thanks to the waiting days; there has been enough merchandise in stock.

Thanks to the fluid development of the negotiations, "Industrias Sica" endowed the distribution for Ecuador to Electro Instalaciones. That is the reason why the company receives the visit from a SICA delegate once every three months to review the strengths and weaknesses of the market.

On the other hand, in terms of import, the company has not had any problems of restrictions by INEN or MIPRO, as the items are exempt from prohibition.

Likewise, the merchandise has always gone out and come on time as it is not only the responsibility of the agent in charge, but the supplier has also been directly involved.

#### **2.3.3.3.- HANGZHOU TIMES IMPORT AND EXPORT CO., LTD.**

It is a Chinese manufacturer specialized in electrical pipes and piping as EMT ducts with American and British standards. The company has ISO 9000 certification guaranteeing the quality of each product.

They have registered the trademark in China, East, Middle East and South America, with a leading export brand in China. They currently export 15

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<sup>33</sup> SICA. SOLUCIONES ELECTRICAS SICA ELECTROTECNIA DE VANGUARDIA. 2010. January 02, 2015  
<[http://www.sicaelectric.com/sicaelectric\\_mexico.php](http://www.sicaelectric.com/sicaelectric_mexico.php)>.

million dollars of products; and they have enough experience to spread worldwide.

One of the strategies that has been implemented to distribute its products to several countries is their presence in various international fairs (CHINA) as:

- Canton Fair
- China International Trade Fair for Fibers
- Hong Kong International Lighting Fair
- Hong Kong Electronics Fair
- Guangzhou Electrical Building Technology
- Guangzhou International Lighting Exhibition
- Cable & Wire Guangzhou

The result we have achieved has been impressive since "many agencies in Southeast Asia, Africa, Middle East and South America signed commercial agreements for the distribution for quality and cooperation."<sup>34</sup>

The company began negotiations with Electro Instalaciones in 2011. From there the business relationship has always been very close, as they extend their trust through periodic visits to residential areas.

The reciprocity and cooperation are important issues in the relation between both companies, according to Julio Alvarez: "Due to a bad negotiation made by the company with a Peruvian client a delivery arrived to the wrong place. In order to remedy that error, the directives of HANGZHOU TIMES IMPORT AND EXPORT CO., LTD contacted Electro Instalaciones, in order to import such goods by geographical proximity. HANGZHOU asked to help them with this process, and so they cancelled the account when selling the merchandise in line with the Ecuadorian supply."

Electro Instalaciones effectively imported the merchandise; making a long-term bilateral relationship, which grew increasingly closer. Since 2012 until now, Electro Instalaciones got to be their sole distributor in Ecuador.

Currently, regarding payments are handled as follows:

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<sup>34</sup> EMT CONDUIT & ACCESSORIES . ALEX. s.f. November 19, 2014  
<<http://www.alexcity.biz/about.asp>>.

- 10% before shipment
- 40% already embarked
- The difference is 60% days from the date the merchandise arrives.

Through this form of payment, transactions have taken a regular course, but if they do not have the immediate possibility to cover it, few days of flexibility can be given.

The main products commercialized by Electro Instalaciones are:

- Metal piping
- Hoses
- Pipe Fittings

About the acquisition of these products, there is no major restriction because these are items that do not need to meet regulations of the Ecuadorian Standardization Institute (INEN), and they do not exceed the import quota regulated by the Ministry of Industries and Productivity (MIPRO).

#### Graphic #6 .- Lack of Importing restrictions

85.38.10.00.00: Boards, Panels, Consoles and other items under heading.



The screenshot shows a web-based interface for a customs or trade system. At the top, there are search filters for 'Codigo de Norma (Base Legal)', 'Tipo de Norma', 'Descripcion de Elemento', and 'Busqueda en resultados'. Below these, a table titled 'Resultado : 1' is shown, but it contains no data. A modal dialog box with the title 'Información' is open in the center, displaying the message 'No existe el archivo consultado.' and an 'Aceptar' button. The background table has columns for 'Tipo de Elemento', 'Subpartida', 'Codigo Complementario', 'Codigo', 'Descripcion de Elemento', 'Codigo de Unidad', and 'Fecha de Inicio'.

98.02.00.00.10: Lights and decorative lighting of power equal or less to 200w.

Tipo de Elemento	Subpartida	Código Complementario	Código Suplementario	Descripción de Elemento	Código de Unidad	Fecha de Inicio	Fecha de Fin
Subpartida NACIONAL	9801.00.0						
SUBPARTIDA ARIAN	9802.00.0						
SUBPARTIDA ARIAN	9802.00.0						
SUBPARTIDA S.A.	9802.10.0						
SUBPARTIDA S.A.	9802.20.0						
SUBPARTIDA ARIAN	9807.00.0						
SUBPARTIDA ARIAN	9807.00.0						
SUBPARTIDA ARIAN	9807.00.0						
SUBPARTIDA ARIAN	9807.00.0						

91.07.00.00.00 Switches and other devices that allow to power a device at a given time.

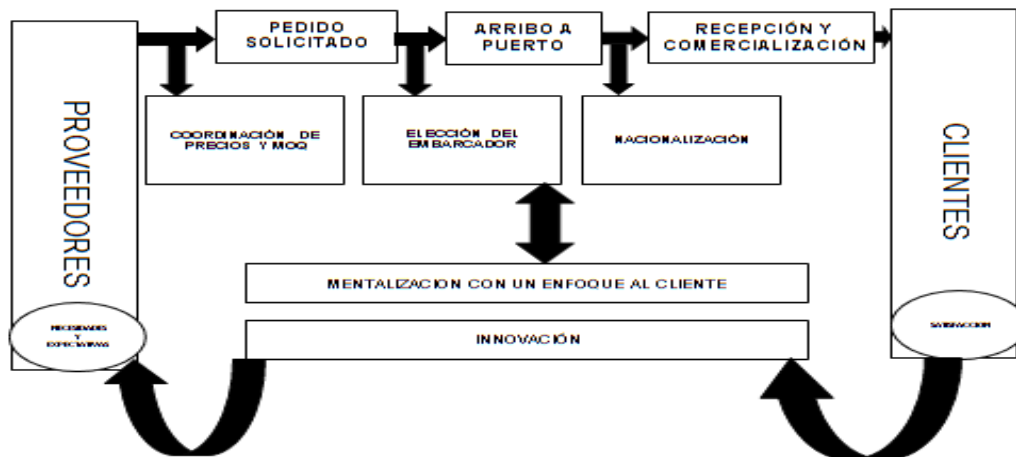
Tipo de Elemento	Subpartida	Código Complementario	Código Suplementario	Descripción de Elemento	Código de Unidad	Fecha de Inicio	Fecha de Fin
PARTIDA S.A.	85.36						
SUBPARTIDA S.A.	8536.30.0						
PARTIDA S.A.	9107.00.0						
PARTIDA S.A.	9107.00.0						
PARTIDA S.A.	9107.00.0						
PARTIDA S.A.	9107.00.0						
PARTIDA S.A.	9107.00.0						
PARTIDA S.A.	9107.00.0						

Source: Sistema Integrado Ecuapass  
Made by: Mejía Samanta

## 2.3.4 Process Map

The company has not established a model in the process map; however, the following table is presented according to the results of interviews with the general manager BA. Julio Alvarez:

### Graphic # 7 Electro Instalaciones Process Map



Source: Electro Instalaciones A & A

Made by: Samantha Mejia

Indeed, the whole process starts from the supplier via mail order in Excel format, as it does not operate any other formal scheme, where the total amount of the purchase is apportioned.

It should be noted that the amount of the order does not handle a calculation to apply, as their products are highly variable for the following reasons:

- Stopped constructions
- Substitute products
- Sales volume, depending if the construction contract is obtained.
- The demand of products from small stores.
- Specialized customer's needs.

For this reason there is no way to apply the calculation mentioned in the first chapter where budgets are based on sales, i.e. previews. The current problem is not buying variations, but lack of budget.

The company actually plays with "pre-shopping" and coordinates with the companies timing, that depends on the production day, origin – transit - and nationalization.

In the case that there are new suppliers it is essential to order "samples" which are sent with no commercial value, in order to be studied either by quality or by the price and market acceptance.

Consequently, when the merchandise is ready after negotiations - specific case of the company (FOB) - Electro Importaciones chooses the best shipper under the following guidelines:

- Quality of service vs. cost
- Transit Time
- Exclusion of warranty
- Agility in the documentation process
- Reduction of extra costs
- Cooperation with the customer
- Traffic

It should be noted that the company always works with intermediaries such as:

- Farletza
- AC Group S.A.
- Rolasa
- A & S Group etc.

They work with different carriers depending on the port of shipment - COSCO, Mersk, HAMBURSUD -. It is worth mentioning that the company is always avoiding sudden offers, but always depending on the project or contract.

Also, the importer has no specific group to work either with freight or shipping companies, because sometimes these agents take the power to handle the load with the shipping company they choose.

Despite the confidence imposed on the shipper agent, there have been some negative experiences. For example, due to some problems the load may not arrive on the estimated date, and the personnel responsible forgets to notify the delay to the client. Despite this, the company does not correct the problems.

Continuing the process, when the load arrives to the assigned port - Guayaquil-, Electro Instalaciones delegates the responsibilities for nationalization under the tutelage of Consortium Malo Arizaga "Comar" which is located in Cuenca, but established in the port of Guayaquil by recommendation of an agent.

Mr. Alex Cabrera, manager of Tramsur, Cuenca - Customs Agents -, said that "there is a percentage of importers still nationalizing their loads in Cuenca, simply because they assume that Cuenca is safer than Guayaquil, where merchandise may be stolen, and they ask for more requirements. The companies do not take into consideration that if it is nationalized in Cuenca, the delivery will need an inspection in Guayaquil by a person authorized by the customs agent. Also, additional fees may be cancelled for another inspection when the merchandise arrives to Cuenca".

As a matter of fact, the reasons why the Consortium Malo Arizaga suggested the establishment in Guayaquil, where the following factors:

- Weather
- Expenses
- Increased documentation

The time of nationalization is now running in about two or three days. The progress of the process is notified by the agent or by the company through the Ecuapass Integrated System, and the "Ventanilla Única Ecuatoriana" (VUE).

Consequently, transport is managed through the warehouse of the company, located on the road to El Valle, Santa Ana. From this point, it is distributed to both the subsidiary and the head office.

Throughout this process, the company is focused on customer needs as it is constantly in direct contact with them, asking the order's urgency and offering them the innovations developed by the company Furukawa.

### **2.3.5 Synthesized Identification of the supply chain**

The company has not developed any formal study regarding the supply chain. So, important information will be identified and developed, obviously besides the information from customers, suppliers and the process mentioned before.

According to Chase Jacobbs in his book "Production and Operations Management", "for identifying synthesized supply chain it is relevant to know inventory management, and the level of service processes that the company actually offers".

#### **2.3.5.1 Inventories**

With regard to inventories, the company performs physical annual checks. After this, the information gathered with the BITS is contrasted.

According to reports, the inconsistencies presented in the inventory have been due to the following reasons:

- Product Confusion for a similar one – color –
- Transfers from one warehouse to another warehouse

As it can be seen, the error comes from the staff, because sometimes they are not careful with quantities or specifications, according to the client's requirements. In order to gradually reduce this error on transfers, a control of three persons has been implemented:

- Approval Signature of product output in the main warehouse
- Approval Signature of transportation
- Signature of receiving the product

Despite such measures, the stock is displayed in BITS System still with some deficiencies, such as Jorge Pizarro –Vendor of Electro Instalaciones- said, "There are times when we have to tell the customer of the items that exist in

the system, but there are also certain amounts of products that have to be checked physically."

As you can see, the client gets the uncertainty of whether or not the product exists. This attitude in the future may be a negative factor.

The company does not have a model of inventory control to perform decisions regarding the amount, timing and price replacement. The principal reason is because these are products that depend mostly on sporadic contracts and the sales of their customers.

The reason for the difficulty is that while there is a flow of products, they are not placed accordingly in the store, because of the urgency of continuing with the daily process.

The company is based on the average cost of inventory; as the total available units for sale are divided into the cost of goods available for sale.

Thus, the company's accountant said: "The resulting average value is used for the final inventory of the merchandise; i.e. when a purchase is made in order to find the average unit cost. This method is viable in the company as prices do not vary much because of the constant purchase of preset providers, plus you have the advantage that the dollar is a stable currency".

In order to verify this inventory model, the handling of returns is analyzed. What was found is that the return consists in the value at which they were sold, i.e. the cost of the product plus profit margin. Ramiro Godoy in his article "Methods of inventory valuation" says: "Returns on sales do get input by the value of the cost with which they were taken at the time of the sale and come back to be part of weighing"

#### **2.3.5.2 Storage**

Regarding the storage of different types of products and their handling, the company has undertaken the construction of a warehouse located at Km 14 along the road to El Valle - Santa Ana, which currently reaches imported goods.

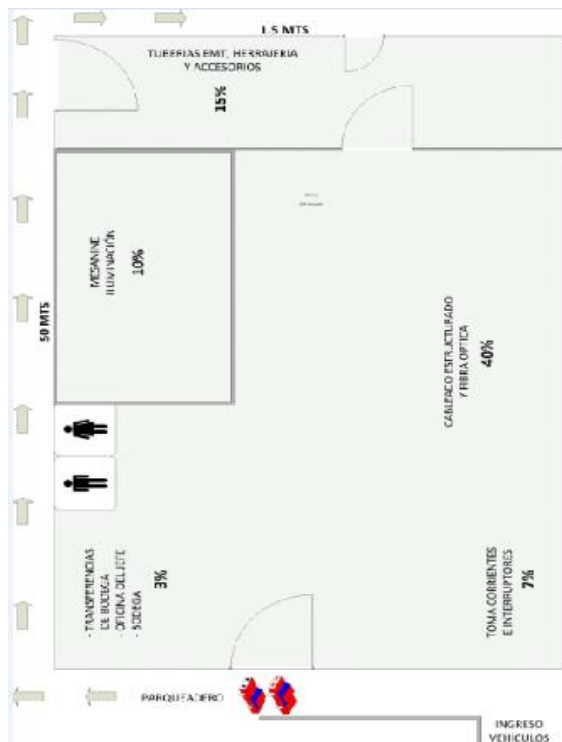
Electro Instalaciones has made a significant investment in this logistics warehouse, where each product is neatly stored with care as it is distributed to each locale for sale.

It should be noted that there is no machinery in the warehouse to handle products because human force is enough.

#### 2.3.5.2.1 Storage Infrastructure

The place where the goods are stored when it arrives at the point of imports is:

**Chart No. 8 .- Distribution of the warehouse.**



Source: Electro Instalaciones

Made by: Samantha Mejia

Access to the warehouse for transport is well suited because it has enough space for the unloading of containers; and also has a specific point for the release of heavy parts.

As the commercial line of the company is very extensive, the warehouse has been classified into large groups of products, as it can be identified on the graphic.

The distribution provides to the staff a reduction of loading time and moving it to outlets; however, this does not mean that there are no mistakes, as similar products of the same range could be erroneously dispatched.

It should be noted that the company does not have specialized warehouses divided by type of products, as there is a wide-range of products, so it is not necessary to make such division. All that is needed is to have order by family products.

According to the information gathered in graph #5, the importer presents the following rate of usage of the warehouse. The Manager of the importer, considering the space available, has provided these values:

**Table # 5. Space physically used in warehouse**

<b>Groups</b>	<b>Usage</b>
Illumination	10%
Structured cabling and optical fiber	40%
Outlets and switches	7%
EMT Piping, metal hardware and accessories.	15%

Source: Electro Instalaciones

Made by: Samantha Mejia

This space division in the warehouse allows a surplus area, which is intended for a future increase in supply. This will give them the freedom to reach out and find new suppliers and bring a new product line.

However, there are weaknesses in the management of goods within the warehouse such as:

- Lack of Order in maintaining inventory
- Lack of control in offices
- Lack of technical organization

This is because there are transfers from the warehouse to the sales outlets, but the company keeps stocks of the most demanded goods.

Finally, it should be emphasized that the management of the distance between the warehouse and retail outlets does not affect the flow of the product as customers expect to get the full and necessary goods within one day - in the case there is no stock in the point-of-sale - for each situation.

Transporting and storage are facts that do not affect the company, as they manage it at their own expense.

### **2.3.5.3 Demand Forecasting**

The company does not use qualitative or quantitative methods of historical projection. Also, an increase for the coming year is not defined, as it is enough for the company to see the accounting results provided by the previous year - utility-margin.

For this reason, every year there is no measure of growth and there is a lack of improvement. The progress of the company is focused on training the staff - Imports, national purchases and public procurement, etc- that is not quantified.

In the forecast, the fundamental elements are the main customers:

- Andres Loayza 24% stake
- Marcimex 19% stake

- Medina Lazo 13% stake
- Franco Torres 12% stake

Each customer has a proof of purchase through reports; in the case that the frequency of purchase has lowered, the client will be called, to know the reason or impairment. Consequently, the company tries to find ways to improve. In this company, there is no measure of growth to forecast future demand, there are no new goals projected for specific markets, and it is just focused on projection training.

#### **2.3.5.4 Internal Transport**

Regarding the management of land transport organization, it is intended for transfers from warehouse to warehouse and as door-to-door delivery. It should be emphasized that this service is for free.

As for the delivery of documentation, the company does not have a flexible mean of transport, because they use the same trucks with parking difficulties and higher fuel costs.

For the delivery of containers in storage, the transportation by land Guayaquil - Cuenca is managed with:

- Transportes Harris
- Transportes Ortiz

These two companies offer prices from the same range depending on the containers:

- High Cube 40 = \$ 800
- 20 ft = \$ 550
- Light cargo: \$ 300

It should be noted that in the past, the company only worked with Transportes Ortiz; however, the manager considers that it is important to include small transporters in order to give a chance to those who have less participation in the market.

As stated earlier, Electro Instalaciones has two providers, who are always available to carry the load as soon as possible; as the merchandise is regularly billed at night and on the next day it is already in the warehouses.

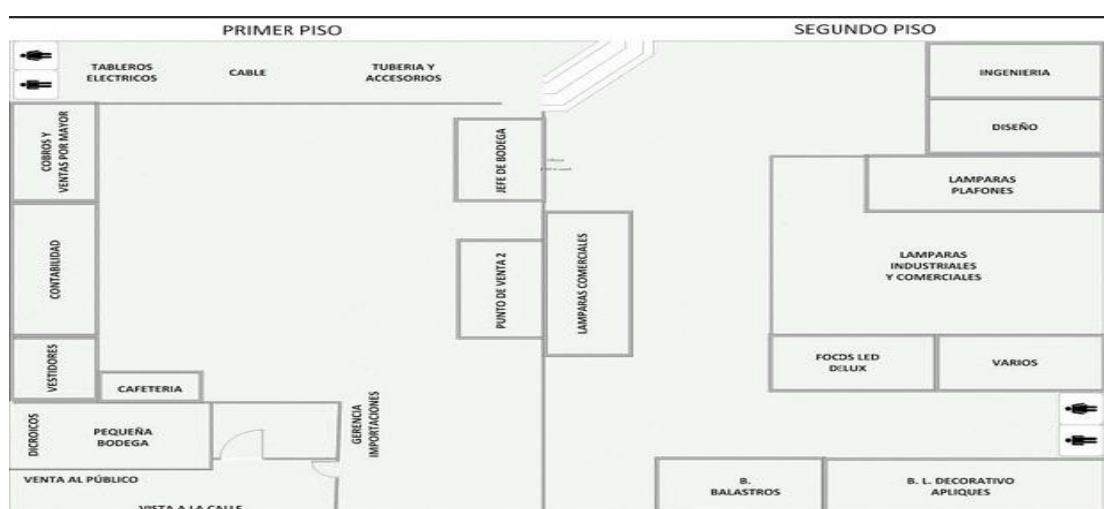
Transportation is an added value that the company gives to the customer, without spending a high value in each journey performed. On the other hand, heavy transport is managed with bases of cooperation and strategic partnership with such companies.

### 2.3.5.5 Infrastructure outlets

Electro Instalaciones has two establishments for sale and distribution, and a warehouse where imported goods are stored.

The principal establishment is located on 7-50 Manuel Vega and Mariscal Sucre Street, which has the following distribution:

**Graphic # 9. Distribution of the Principal Establishment**



Source: Electro Instalaciones A & A

Made by: Samantha Mejia

The selling point of the street Manuel Vega has two spaces for the public, as the graph shows. The one, which is at the street, is mainly aimed to people who require specific items in small amounts. Nevertheless, the point of sale,

inside the company, can also offer these products in addition to the personalized service focused on products for wholesale.

The general manager office, as well as the importing, accounting and billing departments are strategically placed in order to provide functionality for managing processes, and improve the service.

When there are wholesale customers who visit the company, the manager attends them personally and tries to group all needs to address them in the best way.

Moreover, as the graphic shows, the company sells store products that have a higher turnover, obviously with a previous specific order. The company also has an Engineering Department, whose function is providing electrical installations services, tracking and providing materials.

There is also an office of corporate image and advertising design, which has no permanent staff. It depends on an advertising company hired for managing the design arts.

Another point is the distribution branch which is located in Viracochabamba street and Pachacamac S / N, which has eight years of operation. The graphic shows its physical distribution:

**Graphic # 10. Distribution Branch**



Source: Electro Instalaciones

Made by: Samantha Mejia

As a consequence of the rotation of the customers, the local storage is needed. Therefore, products are progressively supplied according to the product decrease. It should be noted that there is no estimated time for transferring goods, as they depend on sales contracts or third parties preferences, etc.

In this case, wholesale negotiations are required. The best option for the customer is to visit the principal store, because the manager mostly works from there.

In the branch, access is feasible for both vehicles and staff; there is only one point of internal sales and the exhibits occupy the remaining space. This branch is also distributed according to "family products" for final sale.

### **2.3.6 Customer Service**

The company does not have a policy in customer service, as the assistance currently provided is done in a reactive way: the contact with the client - in most cases- occurs when the person has faced some problem with the merchandise that was shipped.

However this does not mean that the customer has not been served in a good way, as the company provides services such as:

- Frequently quotes, with prices depending on the amount
- Product support
- Options for similar products, price range
- Transportation, which no charges in the invoice

It should be emphasized that buying in Electro Installations has one advantage: the variety of electrical products is incalculable, ranging from the simplest product to the most complex for any installation. The best possible service at the time of purchase is provided.

### **CONCLUSION**

Electro Instalaciones has years of experience in the market, and has developed continuous decisions to position in the market.

Facts like the location in a specific geographic zone specialized in hardware, the technical assistance for installation, the transport service, and the product range; are the main favorable characteristics of this company. Nevertheless, there are some issues that may weaken the processes. So it is recommendable to develop some strategies to encourage feedback and improvement.

The supply chain has been identified, starting from the most current situation of the company, which has been collecting system data during the year, with the CEO interviews. The reason for not making reference to the purchase value is to avoid partial measurements because the main issue is not the largest amount handled in the period, but the result of indicators such as service, speed of response, availability of products, among others.

With this study, we can define proactive actions or policies that are missing in some departments such as design, human resources, imports and time management, among others.

The management bases its capability to take decisions in "trust", which in some cases is not the most favorable element to take into consideration. The main reason is due to weaknesses in the company and a risk increase. However the management of the company is looking for ongoing activities in order to empower the trust given to the human elements of the company.

Regarding the customer service, the company keeps a personal contact at the time of the sales requirements, suggesting customers the best pricing options. Nevertheless, the company lacks from feedback from the customer.

The company does not establish goals each year, and is focused only in the "training" of staff and conclusively profit margin. There is no planning and budgeting to meet future programs.

Electro Instalaciones is an empiric, technical and familiar business that is mainly based on trust relations rather than professional skills of each individual.

## CHAPTER 3. BUILDING A STRATEGY FOR BRINGING THE SUPPLY CHAIN INTO EFFECT

### Introduction

Electro Instalaciones Company has gained experience across time. This fact has allowed the company to take accordingly decisions in certain administrative issues.

However, as new needs and exigencies arise, both forms of customer service, logistics and management are more dynamic than before, so it is necessary to adapt to those changes and be more competitive in the current environment.

The most outstanding companies in the supply chain model, according to "Supply Chain", are "Apple, H & M, or Caterpillar, which have already applied studies on how logistics problems shall be settled and have found that by applying innovative solutions, there has been a growth increase of 29% over the previous year"<sup>35</sup>.

Innovative solutions not only refer to the technology, but also to new policies, practices and systems that optimize time and resources, that in the long term will result on successful competitiveness and profits. Thus, it ensures the T Grade paradigm: "Technology is not the engine of the company, but innovation of the process along the way. This model involves changes in the business model that is driven by the "ideas"<sup>36</sup>.

For this reason, to improve certain issues of logistics network in the Cuenca Company, options will be provided in stages that lack of agility and innovation, so the company will have strategies for the supply chain.

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<sup>35</sup>Consultora Gartner. El nuevo portal del profesional de la logistica. s.f. January 01, 2015 <<http://www.cadenadesuministro.es/noticias/las-25-empresas-mas-competitivas-de-la-cadena-de-suministro-en-2012/>>.

<sup>36</sup>Ruelas-Gossi, Alejandro. «El paradigma de la T grande.» HARVARD BUSINESS REVIEW/ AMERICA LATINA (2010): 10.

### **3.1 Problem Formulation**

#### **3.1.1 Problem Diagnosis**

Thanks to a 27 years experience in the Cuenca market, Electro Instalaciones is currently characterized as one of the electrical stores that have a wide variety of products for low-voltage wiring, according to Andres Loayza, storeowner and main client. They are also always looking for new trends either in innovation and models.

Some of their strengths are that the establishment is located in a hardware – specialized area in the city, it offers technical advice to their customers, their tariff headings have no technical constraints and it provides transport service. Nevertheless, there are some departments with impairments that are weakening the company's logistics process.

The biggest problem identified is inventory, since there is inconsistency of information system vs. the existence of the goods in the warehouse. These problems are bringing consequences for the final consumer. Such an effect is caused by lack of concentration, organization and employee motivation, and also because there is no department in charge of selecting the best human talent, instead of selecting personnel under a trust base.

Additionally, the imports department -logistics- is not always on the lookout to discover new processes for optimizing time and costs, but in a macro level there are no major difficulties.

The company lacks an internal structure of the supply chain, which affects the logistics management of the company. Thus, it is important to create an internal structure in order to ensure viable long-term improvements to the process.

As for customer service, the company does not have a clear policy as it only relies on a customer service model, called reactive. There is no feedback about the level of customer satisfaction – after sells- and there is no loyalty program or system besides the offered services - transportation, product variety.

### 3.2 Corrective Action Strategy

Typically, "corrective action strategy is focused on reacting directly to a specific incident, resolving it quickly with the cooperation of different areas of work.<sup>37</sup>"

Guidelines for implementing corrective actions go hand in hand with the features of a strategy; which is "not lasting in time, and that the competence of one form or another will permeate the structure achieved<sup>38</sup>" meaning that it is essential to have a flow of ideas in order to undertake the corrective actions strategies.

Therefore these strategies can be proposed, as a theoretical output. Nevertheless, it is not always applicable, because it is necessary to consider the environmental changes, in order to change strategies with it.

Likewise, it should be emphasized that, "in case a specific problem is detected, it is important to develop simple corrective actions, on time, and involving all stakeholders.<sup>39</sup>"

In this regard, it is important to mention that the corrective strategy may be raised with simplicity, and that is what Alejandro Ambrad says in his book *The Strategy of the Dolphin*: "it is essential to develop remedial business strategies in a simple way, simplicity is perfection". He also mentions Albert Einstein: "If your intention is to discover the truth, do it with simplicity; elegance is for the tailor." Indeed when a strategy is easy to understand, remember and analyze, the integrated development of the involved parties will be much more fluid.

At the moment of running the strategic plan, there is no single and systematic application. Thus, Ambrad ensures "this not intended to define instructions that must be followed strictly for any situation, rather to propose options or instructions that allow us to take back some weaknesses". Also

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<sup>37</sup>VERITE. «Desarrollo de una Estrategia de Acciones Correctivas y Planes de Mejoramiento de Sistemas.» FAIR LABOR (2010).

<sup>38</sup>Sierra, Emigdio Rafael Contreras. «El concepto de estrategia como fundamento de la planeación estratégica.» Martes de Julio de 2013.

<sup>39</sup> VERITE. «Desarrollo de una Estrategia de Acciones Correctivas y Planes de Mejoramiento de Sistemas.» FAIR LABOR (2010).

Ignacio Gonzales says in his book "How to Win a War" "When Napoleon was asked what were the principles and strategies of war he applied, he replied- none. Napoleon's genius lay in the ability to respond to situations with innovative ideas "this means that he responded to each situation uniquely".

### **3.2.1 - Proposal for implementing the corrective strategy**

To generate a corrective strategy in the organization, it is important to note the way in which the information flows within the area.

To achieve this objective it is fundamental that simplicity and readiness exists to easily adapt to such changes. These two points need to be taken very clearly.

With the identification of the components of the supply chain, we seek to provide options for improving the management of the processes and stages seeking customer satisfaction. However, as mentioned above, the plan will not be executed under strict guidelines but according to each situation on the basis of administrative principles.

The mission of the company is:

*"The principal purpose of ELECTRO INSTALACIONES, is the marketing and distribution of electric and telephonic equipment, structured cabling, among others; and the development, design and construction in Electrical Engineering, using the best brands that meet quality standards according to current technological requirements, which seeks to provide total customer satisfaction and help develop the community and the environment in which we live".*

The vision of the company is:

*"To consolidate as a strong and competitive company, leader in: commercialization and distribution of electrical and telephonic materials, structured cabling, telecommunications and Electrical Engineering Technical Service. The company imports products and brands that meet current standards and brings ongoing training to administrative, commercial and*

*technical personnel, to deliver quality service according to the requirements of today's world. "*

Both the mission and vision of the company have not been fully complied with this purpose and aspiration because:

- There is a lack of deep knowledge about the true importing process, despite the fact that during this time the company has tried to do their best.

"The constant awareness on issues of international purchases is essential to optimize time and costs. Two pillars that support the proper management of the import.<sup>40</sup>"

- The monitoring of the actual physical stock vs. system inventories.

"The swiftness of the day should not be an impediment for trying to control the inventory, otherwise you lose more time on solving the time it takes to control it.<sup>41</sup>"

- The customer service is not effective, as it is not responding to the necessities of the customers, and lacks post-selling feedback.

"In today's world it is not enough to have good customer service, but it is necessary to have a design according to the needs and time of your clients.<sup>42</sup>"

### **3.2.2 Development of remedial strategies**

Accordingly to the values presented above, options are provided below, which are in line with current needs and competition, so it is necessary to say:

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<sup>40</sup>Hugo, Willi. Gestion y desarrollo logistico en la industria . Mexico, 2010 .

<sup>41</sup>Gomez, Ing. Paul. Jefe de inventarios Samanta Mejia. 6 de Enero de 2015.

<sup>42</sup>Couso, Renata Paz. ATENCION AL CLIENTE. Mexico, 2013.

"Corrective practical actions of logistics begins with business goals and ends parallel to the contemporary customer.<sup>43</sup>"

After having fully understood the principle of Ronald H. Ballou, we will proceed to enumerate the options of many companies, which are based on experience and not on theories.

"The heart of all learning is how to process the experience, especially in the critical reflection of the experience.<sup>44</sup>"

"Whenever you teach, teach to doubt what you teach". Jose Ortega y Gasset.

Indeed, identifying the major elements within the supply chain and finding its weaknesses are the following recommended strategies. It is important to identify them to comply with the principles of the first chapter: "It should be stressed that good management of the supply chain includes identifying all the factors that may cause an interruption in the process."

### **3.2.2.1 Corrective strategy on the logistics process**

It should be noted that the vision and mission of the company states that:

- The company will use the best brands that meet quality standards according to current technological requirements.
- The company's business is based on the import of products and brands that meet current standards and the ongoing training of staff.

Starting from this point, we can say that the constant visits to international fairs allows to cover technological and innovation issues that promises the suppliers brands.

That is, it complies with the purpose of the founder of the supply chain management. Thomas Stallkamp says, "it is necessary to have active providers acting in the development and design of products"

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<sup>43</sup>Ballou, Ronald H. Logística: Administración de la cadena de suministro. Estados Unidos : Pearson Education, 2013.

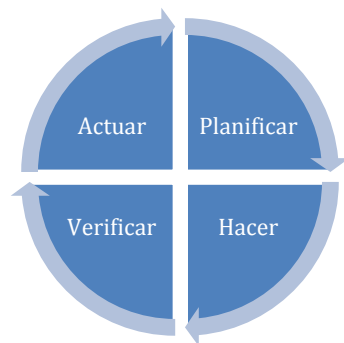
<sup>44</sup>Lifshitz, Alberto. Aprender de la experiencia. Mexico, 2010.

It should be noted that the fairs are attended not only by the directors of the company and people involved in importing, but also it is a way to bring further support in finding new suppliers and technical personnel. For example, the Electric plant engineer also participates, whose function is to approve or reject new products.

But despite such good deeds, the logistics process has some weak points that could be strengthened with more knowledge throughout the process.

Below we will group the corrective actions proposed under the Deming Cycle scheme. It is a "methodology that systematically explains steps to achieve continuous improvement, based on the reduction of errors, increase of efficiency and effectiveness, troubleshooting and eliminating risks"<sup>45</sup>. In this way it aims to improve the situation of the company.

#### **Graphic #11 .- Deming Cycle**



Source: Verite  
Made by: Mejia Samanta

The actions are grouped according to the deficiencies of the supply chain; i.e., excluding issues that operate correctly. For example, regarding the management of suppliers. In this case, the relationship is very good, as there is constant support and both maintain confidence as to the timing of payments, credit notes for shortages among others. However, the good

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<sup>45</sup>APDC. Ciclo PDCA (Planificar, Hacer, Verificar y Actuar): El círculo de Deming de mejora continua. October 2010. January 12, 2015  
<<http://www.pdcahome.com/5202/ciclo-pdca/>>.

relationship between the two does not ensure that the entire importing process is efficient.

The key element in this process is the international logistics of imports, which comprises "all the activities necessary to acquire and transfer the goods from the seller's premises to the local buyer. The operational activities of such management are: shopping, international transport, customs and storage management.<sup>46</sup> "

The company has tried to manage the logistics and their knowledge, but there are points where they could optimize the time, money and time resources.

### **3.2.2.2 PLAN**

It is important to plan the logistics of the importing process, because through it we can be overcome mishaps and ascertain the reasons of each of the relevant stage of the development.

Before developing this section; it is necessary to mention a quote of the first chapter of this work: "It should be emphasized that the issue of pricing is critical in the supply chain; since it is related to profitability without neglecting the proper handling of logistics. "

#### **3.2.2.2.1 Term trading**

Here are key points of import logistics, which compares the current process of importing ideas -strategies- vs. optimization required or it highlights if there are weakness in a specific stage.

Starting from the end of trading, i.e. the rules on the conditions of delivery of the goods, we can say that most of the imports that Electro Instalaciones are

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<sup>46</sup>LOGISTICA PORTUARIA INTELIGENTE. «¿Qué son los Incoterms?» LPI DE MANZANILLO (2015).

in FOB 2010 terms, i.e. that "the seller's responsibility ends when the goods sit on the deck of the ship."<sup>47</sup>

When the exporter delivers the goods on board the vessel designated by the importer at the port of embarkation, their responsibilities are completed, giving the baton from there to the importer in case of any loss.

The company adopts the most common process and the recommended by experts in the world of foreign trade, since it is free of liabilities and expenses such as:

- Exporting document
- Formalities for release
- Being aware of the routes as required by the importer
- Liquidating expenses related to the goods until such time as the cargo has passed the ship.
- Settling the costs of checking operations (such as checking quality, measuring, weighing etc.)
- Having the power to hire insurance

In addition it should be emphasized that this term "inland" is mainly used for the transit of goods to the site office - EXW- terms.

### **Study case**

As a practical example in terms of the savings the cost difference will be detailed on the basis of real import.

- Components Inland rate (common)

"Inland freight in the exporting country, from the seller's warehouse to the port of embarkation"<sup>48</sup> It should be noted that the costs incurred in this proceeding must be undertaken by the buyer at the time of cancelling costs such as freight destination.

It is also important to mention that according to "international measures, the performance of the supply chain is affected when you opt for inland

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<sup>47</sup>La Logística Internacional de Importaciones. 06 de febrero de 2010. 13 de Enero de 2015 <<http://inpechi.org/logistica-internacional-importaciones.html>>.

<sup>48</sup>OMC, Valoración de mercancías según el Acuerdo del Valor de la. CONTROL DE CAMBIOS - PROCEDIMIENTO ESPECIFICO. 2012.

because they depend on delivery time and the variability of the processes according to the bureaucracy of each country".<sup>49</sup>

This process is different when the same exporter makes the procedures to carry the load directly to the port, for the immediate availability of documents and information.

To have a better understanding of the items and procedures, then the corresponding elements will be announced:

### **Graphic #12.- Inland Invoice**



PICK UP	605,00
DESPATCH	350,00
BL. FEE	35,00
STUFFING	20,00
COORDINATION	40,00
WALIDACION	25,00
ADMINISTRACION	25,00
FLETE MARITIMO	420,30

Source: Rolasa S.A

Made by: Rolasa S.A

- Average rates to collect the goods from the factory to the port - Main suppliers-

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<sup>49</sup>COMPETITIVIDAD, CONSEJO NACIONAL DE INNOVACION PARA LA. RECOMENDACIONES PARA FORTALECER LA PLATAFORMA LOGISTICA. CHILE, 2010.

Table #6 .- Comparative Table of the Inland Costs by Provider

SUPPLIER	ORIGIN	DEPARTURE	INLAND	COSTS FARLETZA	COSTS ROLASA	COSTS SHRIVER
FURUKAWA	COLOMBIA	BUENAVENTURA	PICK UP	\$ 650	\$ 600	\$ 600
			SHIP	\$ 400	\$ 430	\$ 500
			BL FEE	\$ 35	\$ 35	\$ 35
			STUFFING	\$ 20	\$ 25	\$ 25
			COORDINATION	\$ 50	\$ 45	\$ 30
			VALIDATION	\$ 30	\$ 30	\$ 35
			ADMINISTRATION	\$ 25	\$ 30	\$ 25
SICA	ARGENTINA	BUENOS AIRES	PICK UP	\$ 700	\$ 750	\$ 700
			SHIP	\$ 650	\$ 680	\$ 600
			BL FEE	\$ 40	\$ 40	\$ 40
			STUFFING	\$ 35	\$ 40	\$ 45
			COORDINATION	\$ 50	\$ 45	\$ 50
			VALIDATION	\$ 30	\$ 40	\$ 45
			ADMINISTRATION	\$ 30	\$ 30	\$ 40
HANGZHOU	CHINA	SHANGHAI	PICK UP	\$ 800	\$ 900	\$ 800
			SHIP	\$ 700	\$ 730	\$ 700
			BL FEE	\$ 50	\$ 50	\$ 50
			STUFFING	\$ 50	\$ 50	\$ 55
			COORDINATION	\$ 60	\$ 60	\$ 65
			VALIDATION	\$ 40	\$ 40	\$ 45
			ADMINISTRATION	\$ 40	\$ 45	\$ 45

Source: Cotizaciones con Shriver, Farletza y Rolasa  
 Made by: Samanta Mejía

The values presented above have been quoted for January 2015. As it can be seen, there are amounts that will be represented in the cost of imported product in comparison with the lower cost than it would be in FOB term.

In most cases the bills on FOB are as follows:

Graphic# 13.- Fob Invoice

Cantidad	Descripción de la mercancía	Valor Unitario \$	Valor Total USD
4	Caldera a gas	6.067.300	12.134,6
TOTAL			12.134,6

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Net Weight : 5.420  
 Gross Weight : 5.962  
 Content : 3 Boxes  
 Termino : FOB- CARTAGENA  
 TRASPORTE : 973.68  
 SEGURO : 245.65  
 OTROS GASTOS : 185, 96

SON: STRECE MIL QUINIENTOS TREINTA Y NUEVE DOLARES CON OCHENTA Y NUEVE

Pais origen de la mercancía

COLOMBIA

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Source: Gelmsa S.A  
 Made by: Gelmsa S.A

According to the graph, there are amounts that are added to the bill but there is a difference versus the cost of inland.

Table No. 7 A Difference FOB to EXW

AVERAGE // EXW COSTS	FOB COSTS	Saving
\$ 617	\$ 708.00	\$ 510
\$ 443		
\$ 35		
\$ 23		
\$ 42		
\$ 32		

	\$ 27		
	<b>\$ 1.218</b>	\$ 708.00	
	\$ 717	\$ 800	\$ 760
	\$ 643		
	\$ 40		
	\$ 40		
	\$ 48		
	\$ 38		
	\$ 33		
	<b>\$ 1.560</b>	<b>\$ 800</b>	
	\$ 833	\$ 1.200	\$ 592
	\$ 710		
	\$50,00		
	\$51,67		
	\$61,67		
	\$41,67		
	\$43,33		
	<b>\$ 1.792</b>	<b>\$ 1.200</b>	

and

The shows

Source: Quotes Shriver, Farletza Rolasa.  
Made by: Samantha Mejia

table above saving

opportunities for the FOB income term, which optimizes time because processes are reduced. This is, when the filler proceeds to collect the goods he takes time to assign:

- Transport
- The course of the mobility to the factory
- The course to port
- The documental Closing
- The physical Closing

About the latter documental and physical closing, it should be emphasized that in both terms documents should be made, but if there is already a provider, time will be shortened.

### 3.2.2.2.2 Transportation

The company works with maritime transportation, because their products are not perishable nor have any other characteristic, which makes airfreight necessary.

Airfreight is not necessary for the transportation of the products, because the customers place their orders in advance with the company. This process is called "pre-purchase"

In order to compare the transportation costs, differences will be analyzed between each type of transportation, as the airfreight costs are variable because of factors like weight, dimension and materials. So, it is not possible to have a general percentage that includes all types of costs.

Table #8 .- A comparison between Air Freight vs Maritime Freight

<b>MARITIME</b>	<b>Cost</b>	<b>AIR</b>	<b>Cost \$ 7 x Kg</b>
1000 Kg : sole cargo, China	\$ 1200	1000 Kg	\$7000

Source: Interview with Panalpina  
Made by: Mejia Samanta

As we can see, there is a big difference in cost, where the value is optimized.

Consequently, at the time of choosing the shippers, the company negotiated with forwarders and not with shippers, as it is a common business practice.

Ing. Jimmy Potes, Account Executive of "Line Logistics Service", presents the reasons why most companies opt for a forwarder:

- The shipping companies do not provide credit facilities to small importers.
- There are no disclaimers, unless a large volume is handled.
- The shipping companies do not track the load status.
- There are no services, such as anticipated deliver.
- When the load arrives, the companies' staff will have to go to take a BL, for two hours.
- There are a lot of procedures, such certifications upon payment checks and other documents etc.

These are the reasons why companies prefer to work with forwarders, whose costs are not so high in comparison with the time and requirements avoided.

Table # 9. Cost Comparison between Forwarders vs. Shipping Companies

Shipping	Cost	Forwarder	Cost
Hapag Lloyd: 20 ' China	\$1800 aprox	Farletza	\$2000
Mersk: 20' Colombia	\$280 aprox.	Panalpina	\$ 340

Source: Interviews with Service Line Logistics

Made by: Mejia Samantha

As we can see in the table above, the differences are justified, as the small-medium company would have to spend more time and effort to make all the arrangements. This table demonstrates the benefits of working with a forwarder.

On the other hand, when the company establishes a covenant with the shipper, they do not realize about the shipping company that will bring the products, because they trust on the shipper.

This is important in order to measure the cost, service, days and ease of processing, etc.

Besides, ship routes would be better controlled, analyzing whether they make transfers, the operative days, the days off, etc. Also it will allow reducing certain expenses associated with shipping, such as:

- Washing the container
- High costs for delays in returning the container
- Charter guarantees -specifics-
- Certification of freight
- Fines, etc.

For this reason, the company should be aware on these facts and should not trust all the aspects to the forwarder.

### 3.2.2.3 Check (Control)

The company presents a lag of inventory each year, so decisions to try to better control that problem are taken.

In reference to the first chapter of this work, about the management of the supply chain, it is mentioned that, "it is formed by all the parties involved directly or indirectly to the satisfaction of a client request"<sup>50</sup>.

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<sup>50</sup>CHOPRA, SUNIL. ADMINISTRACION DE LA CADENA DE SUMINISTRO. MEXICO: Pearson Educacion , 2013.

In order to meet this objective, it is necessary to monitor and effectively manage the line, not only from the manufacturer and the supplier, but also transporters, warehouses, internal staff, etc. And that is what is intended in the following section.

#### **3.2.2.3.1 .- Control of the real stock of physical inventories vs. system.**

As discussed in the previous chapter, another problem that really affects the company is that there is a difference of physical and digital inventory.

Jorge Pizarro, who is a seller, mentions, "There are times where we have to tell the customer that according to the system there is a certain amount of product but we have to check it physically."

That is the reason to look for a measure of control to the system, so there are no differences with the physical amounts in warehouses.

First, it should be mentioned "the key to good inventory management responsibility lies with the people responsible rather than with an exact system that manages the addition or subtraction."<sup>51</sup>

As mentioned above, the person responsible for the warehouse must register every move - transfer, discharge, movement, corresponding dates, etc -.

He is responsible for every item, which is in the warehouse, so there should be no excuses like:

- Weather
- Confusion
- Lack of knowledge

These are the main problems detected in the importing in developing inventory identification.

An example is "El Hierro" company, which handles millions of products, with no differences between physical and digital inventory.

This company imports and commercializes construction products, foundry, and finishing home decor. The company keeps the stock with programs made by the same internal programmers.

In order to discover whether the program is technologically superior, to enable them to have greater control compared to BITS, we interviewed Mr. Fabian Bermeo - developer in the aforementioned company- who said: "This system does not have something new. It is a two way integrated accounting system, which controls all transactions, so the staff have the ability to track inventory movements. But the most important thing to be aware of is the

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<sup>51</sup>CONTRATACIÓN, ÁREA DE. Instrucciones básicas para el mantenimiento del inventario. Mexico , 2012.

human element, who are responsible for the results and the consequences of their work."

Indeed, all efforts should be focused on human resources in order to better control that the physical stock matches what is entered into the system.

To this aim, the person who is in the warehouse, has the following filters:

- The release of the goods
- The transporter of the goods
- Signature of receiving the product

Nevertheless, problems remain, because the information is not interlacing with the entry or exit moves that are concurrently made with all the departments involved.

At the moment of delivery, the responsible of the warehouse checks the product code, which is not the same as the supplier's. Therefore, it is important to create the product code in order to avoid confusion.

#### Graphic # 14 .- Products coded by the company

FECHA	NUMERO	CODIGO	NOMBRE
013/07/11	08-0000000125	979	-INDUSTRIAS
013/11/07	08-0000000141	979	-INDUSTRIAS
2 Registro(s)			
VAREZ MORALES JULIO CESAR - 2013			
NUEL VEGA			
ENCA			
DOCUMENTOS DE PROVEEDORES			
gina:	1	2014/Nov/15	12:58:24 M28-MAR
Documento: 08-FACTURA DE IMPORTACION			
FECHA	NUMERO	CODIGO	NOMBRE
13/07/31	08-0000000126	1008	-SHANGHAI W

Source: Electro Instalaciones A&A.

Made by: Mejía Samantha

According to Jose Ignacio Gonzales Gomez in his book *The Coding Systems for Items*, "In the code of each material it is necessary to include the definition of its main properties and characteristics, planning it so that the storage is properly organized"<sup>52</sup>and avoid the subjectivity in managing items in an inventory.

#### Graphic # 15. Product Coding Model

<sup>52</sup>COMIECO XXIV. ANEXO 3 DE LA RESOLUCION No. 93 - 2002. Mexico , 2012.

Nombre proveedor	Descripción línea	Tp In	2º nº artículo	Nº cuenta	Tipo aux	LM aux
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	ENCIMERA A GAS VIDRIO NEG 60...	S	EG6001			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	ENCIMERA A GAS VIDRIO NEG 90...	S	EG9001			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	Horno empotrable Indurama 60cm	S	HEI60ECR			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	ENCIMERA A GAS VIDRIO NEG 90...	S	EG9001			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	ENCIMERA A GAS VIDRIO NEG 60...	S	EG6001			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	Horno empotrable Indurama 60cm	S	HEI60ECR			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	ENCIMERA A GAS VIDRIO NEG 90...	S	EG9001			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	Horno empotrable Indurama 60cm	S	HEI60ECR			
569305 SHAFTAL COMMERCIAL PRODUCTS LLC	Horno empotrable Indurama 60cm	S	HEI60ECR			

**Source:** Induglob. S.A

**Made by:** Samanta Mejía

This is a clear example of how you should code the items and avoid error margins.

On the other hand, in the next filter - second signature – the company transporter was interviewed, and he mentions: "I validate the merchandise I transport, and I count that every pack is complete, according to the office indications." This attitude is not generating value to the supply chain, as it is not giving a solution to deficiencies.

If the transporter is considered as a screening tool, we must ensure that he:

- Is aware of the material
- Is aware of the code
- Gets involved in the office.
- Is responsible

It is not possible to assign such an important responsibility to anyone who is not aware of what is actually being transported.

In addition, when the goods arrive at the third stage, the staff realizes that the merchandise transported is not what was requested initially, so the merchandise is returned and instead of entering everything again to the point of sale, some part of the goods are retained in order not to "waste the trip that was made for such delivery" according to Gladys Ortega and Lucia Orellana - Retailers.

Fewer units of merchandise are returned to the main warehouse, so there is no control of what is being withheld. The main cause is the lack of monitoring by those responsible, people that are not aware of the damage done to the company.

Upon dispatching the items, the system counts it as if it had entered the same amount but counting fewer items. They did not realize that the goods are available in the store, without knowing the current location of the product.

As we can see in the following table, the differences of the 15 most rotated products express that people are not aware of the correct process.

Table #10.- Differences between incomes vs outcomes

Code	DESCRIPTION	SYSTEM INVENTORY	OUTCOMES		PHYSICAL INVENTORY	DIFFERENCES IN SHOPPINGS
1008	Copper Cable 7.5	2659	1658	1001	930	71
1005	PVC 35*57	2000	1765	235	201	34
2345	LEDS RVG	1087	876	211	187	24
9658	Troughs 2.5	3000	2734	266	266	0
1034	Breakers max. 60 V d.c.	500	369	131	117	14
1056	Outlets 2 CMR Points	376	205	171	160	11
1069	Galvanized Pipe 3.20 M 13MM 1/2"	865	654	211	211	0
1507	Earth rods N° 18 BWG.	765	639	126	109	17
1087	Lamps 4W power, directo a 220V	479	254	225	220	5
1040	Reflectors 500w - 4357	458	234	224	224	0
1046	Trans. panels 480Mbps (60MB/s),	367	206	161	157	4
2765	Telephone terminal box rj11	1540	876	664	653	11
7408	Portholes MR16	2457	1768	689	657	32
6507	3x32W recessed downlight	459	276	183	183	0
1567	Ballasts 150W/120V	4098	2760	1338	1317	21

**Source:** Bits, Electro Instalaciones A&A

**Made by:** Samantha MejiaRodas

As can be seen, the following differences are the amounts discussed by vendors at the moment of offering products and services to customers.

The main problem identified is related with the process of selecting personnel. The manager of the company says: "When choosing staff, I think that the most important thing is trust. Usually we select people recommended by acquaintances or friends". In consequence, the company does not have a selection process based on the capabilities of the human being.

Edwin Amaya in his book *12 Tips to Hire the Right Personnel for your Company* mentioned: "Therefore, entrepreneurs should know that the first rule when hiring staff is not tempted to do so hastily guided by simple friendships" or after the review of Hector Noguera Trujillo "Tell me what kind of personnel you hire for your optical and I'll tell you the results you get."

Indeed, although the development of this work is not based on improving the recruitment process but on improving the supply chain; -the logistics chain- is an important theme in the strategic decisions within the company.

### 3.2.2.4 Create

At this stage, "a corrective action is executed, and that includes the organization, management and possible solution."<sup>53</sup>

So an option to offset the proven solution inventory, is to:

\* Raise awareness among people that inventories are vital in the organization and that it greatly affects the daily operations of the company.

On this issue, other companies were visited to learn about the management of income and expenses of the merchandise. So it is preceded by an interview with the person responsible of the warehouse.

Graphic # 16. Process Office



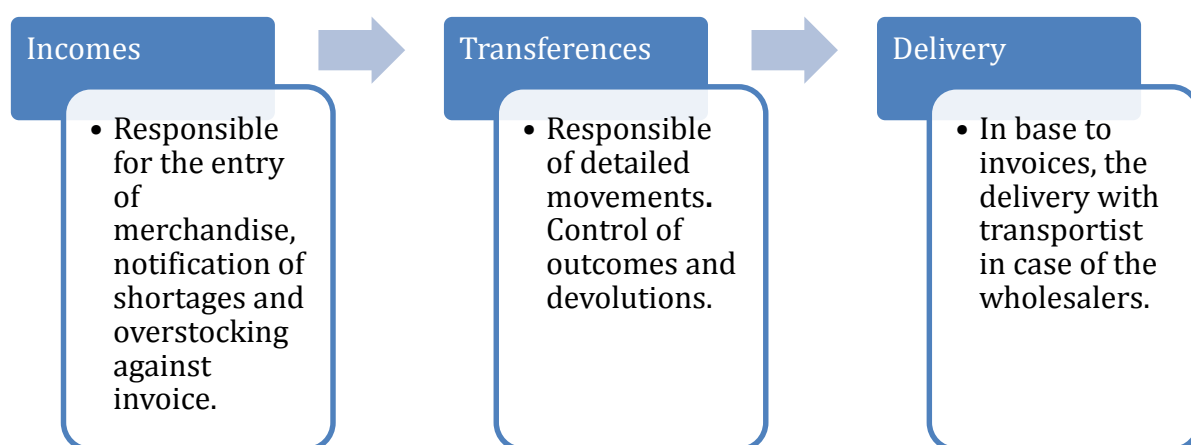
<sup>53</sup>VERITE. «Desarrollo de una Estrategia de Acciones Correctivas y Planes de Mejoramiento de Sistemas.» FAIR LABOR (2010).

Source: Jácome y Ortiz de Comercio  
Made by: Mejía Samantha

"In conclusion, outcomes, either transfers or devolutions, must be registered with the highest concentration since that depends on maintaining the right inventory," said Arteaga. This is consistent with the information provided above by Ing. Bermeo company "El Hierro".

People must be responsible and these processes should be as follows:

#### **Graphic # 17. Responsibility process of the warehouse**



**Source:** Mst. Gabriela Yépez Moreira  
**Made by:** Mejia Samanta

The person responsible of the warehouse, must know the exact condition of the item, and for that the following purpose is required:

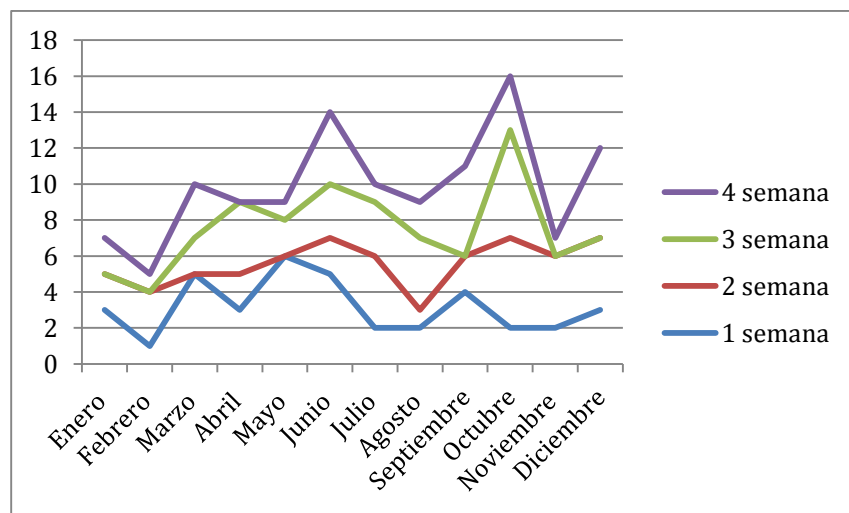
- More training on new and standard product coding,
- The importer must establish control policies to the responsible of the warehouse.
- Establishment of fines in case of inventory inconsistencies.
- The warehouse manager should become fully responsible of departures and income as non-value filters will decrease.
- Keep a detailed account of every move that is made:
  1. Reason
  2. Destination
  3. Amount
  4. Solicitant
  5. Date and Time.
- Follow the same process when goods reenter the warehouse.

Ing. Bermeo told us about the strategies adopted by "El Hierro" company. "At noon, the system runs all the inconsistencies and lack of information on movements made on that day, so it does not allow remaining transfers without registration".

This system is software added to the own system they have, but maintenance is required for the number of items they own. Electro Instalaciones does not handle the number of items handled by "El Hierro" company, and as mentioned earlier, the problem lies with the staff so there should be a more complex system.

- In consequence, it would be necessary to implement regular checks to verify that the warehouse manager is doing the steps mentioned above. But first defining a deadline to accomplish it.

**Graphic #18. 2014 Transfers**



**Source:** Electro Instalaciones A&A

**Made by:** Mejia Samantha

In this chart we can realize that the transfers are not regular in time, so we obtained a period average, which result is 3 transfers per month. It is also necessary to make a physical inventory in order to eliminate pending transfers.

### 3.2.2.5 Acting

In this phase, the company should "offer improvements as it tries to correct the deviations detected in the processes used"<sup>54</sup>.

#### 3.2.2.5.1 Customer -Service

As discussed and analyzed in the second chapter, the importer has no after-sales service, so it is essential to find a point which would address this deficiency.

<sup>54</sup>Sierra, Emigdio Rafael Contreras. «El concepto de estrategia como fundamento de la planeación estratégica.» Martes de Julio de 2013.

With the mindset "that the client continues to be a client, even if the order is cancelled" it is necessary to create a long-term relationship with the customer, improving the experience the customer has with his purchase.

At this point the company needs to apply the technological tools mentioned in the first chapter: "This preliminary estimate helps the company implant the technology in key points, namely to solve critical business problems or to implement the right technologies and optimize resources".

According to Alfonso de Alba in his article "sales tactics to convert customers to brand ambassadors", the following points must be applied:

- **Communicate with the client.**

A database of customers of the company must be created, to have further contact after the point of purchase; that will give feedback to the company.

- **Carry potential value to the sales**

Become a technical assistant to advise on the use of electrical product and also on ways to improve advantage in its use.

- **Communicate quickly**

Do not wait much time to re-contact the customer, since it depends on the timely follow-up of the orders.

- **Keep the client informed**

Any innovation of any electronic product; news promotions or updates should be informed to the client in an appropriate time and dynamically.

These points are practically applied to the company; however, in order to give the company an action plan, it is suggested to consider the following actions below.

As it is generally known, since 2015 the electronic invoicing has become mandatory for taxpayers, so, it is within these obligations of Electro Instalaciones.

The strategy would be based on invoicing, as before the electronic invoicing it was difficult to obtain the client's data.

Data collected by billing that would serve to make a serious databases are:

- Name
- Address
- Phone
- Email

It should be noted that to group data, customers should be segmented. For this issue, customers with Price preference would be taken into account:

- Prices A: All frequent customers, which exceeds \$ 15,000.
- Prices B: All frequent customers that exceed \$ 6,000
- Prices B1: All frequent customers that exceed \$ 500

Based on these facts clients would begin to generate after-sales service in relation to the points raised above:

Table # 11: After Sales Programming

<b>Communication</b>	At the moment of delivering the invoices, the newsletter with the suggestions will be also sent. As the digital invoicing process is mandatory, the company has to take advantage of this step.
<b>Generating an added value in post-sale</b>	An instructive document will be sent to the client.
<b>Quick communication</b>	A post-sell e-mail will canalize all the suggestions. Also, a person will make all the corresponding calls.
<b>Constant Information</b>	E-mail with information regarding promotions and new products will be sent.

Source: Alfonso de Alba

Made by: Mejia Samanta

There is no cost for this mailing information service, because it is a basic knowledge of engineering that the company owns. This person would be responsible for giving support, putting all relevant information of the company, edited in a practical way.

In the following chart, the mailing would go hand in hand with the invoicing.

## Graphic # 19 .- Mailing Proposal



Source: Ing. Jorge Benalcazar

Made by: Ing. Jorge Benalcazar

The proposed strategy consolidates all ideas of a good after-sales plan. The manager should monitor updating and invigorating this mailing in this case because it is a proactive player in the company.

## Conclusions

Electro Instalaciones experience in 27 years in the market has given some positive results, such as being recognized in the field of electrical supplies, having regular customers who demand variety of products, suppliers that frequently satisfy the client's requirements, etc.

However, there are certain deficiencies in its supply chain, which effectively weaken the process, such as the lack of deep understanding of the import process, differences in inventories, lack of training and awareness of the various processes of the employees and decoupling the customer after purchase.

Corrective measures for deficiencies have not been established, so the main objective of this work is to provide such strategies.

The proposal has been suggested from a simple way for easy application and also based on experiences of renowned companies in the city of Cuenca.

It is also important to mention that the development of the strategy corrective action is based on the Deming Circle, which provides continuous improvement that allows the company to have integral growth, optimizing productivity and increasing participation in the segment market.

These corrective actions do not require a large investment for obtaining results, if not based on the process of its various activities without relying on big technological solutions; thus affirms Alejandro Ruelas- Gossi with its "Big T Paradigm"

## Final Conclusions

Electro Instalaciones has gained experience and market share in these 27 years by commercializing products and solution services in electrical engineering and structured cabling.

However, this work presents parameters on the supply chain management as a possible solution to the negative assumptions of the manager. It is noteworthy that such theoretical framework is not intended to develop a static model of how to handle it. Nevertheless, it shows the general conditions of its formation and contributions of companies, with their study and identification; and offering innovative solutions, restructuring of logistic processes, minimizing time, and strengthening the overall process.

Currently, the company maintains some processes that have helped to position itself in the market. However, some of the processes have been adopted empirically or simply based on a common model, like the import process. Moreover, the company is not aware of how to solve problems that occur in the inventory with the common system lag vs. the physical stock and to maintain the view that the customer obtains when it cancels the order. This occurs in the company, as the manager bases the entire process on trust that is given to internal staff, but not in the capacity of the human resources. It is also important to mention that there are no sales projections, which prevents them from having a long-term purchase projection because what you are given is "pre buy" orders.

These problems are the negative assumptions that the manager had on the logistics process. However, no decision has been taken in order to reduce them.

## **Recommendations**

The company's lack of knowledge about the benefit of analyzing a supply chain, so they have been carrying out actions that were supposedly fully validated.

However, thanks to an analysis of each link in the supply chain, anomalies have been detected. These anomalies hinder customer satisfaction; so it is recommended to constantly review each link of the supply chain, as currently reflected in this work.

In addition, it is necessary to take the corrective action strategies established before, in order to attack the problems that arise in the supply chain, such as greater control over the staff especially in the warehouse under greater pressure by placing their responsibility; obviously not leaving behind the proposals for optimal development in the respective management.

Furthermore, it is recommended that the company focuses on after sale customer service; through suggestion boxes, in order to know if the functionality of the product satisfies the client's expectations, sending practical manuals for correct use of the product, etc.

It is essential to know all the steps of the importing process, in order to take correct decisions. Also, it is important for the company, not considering criteria or processes that they do not know well, because it involves money and time for the company.

It is also recommended to do a technical analysis of sales to have more control in the projection of the purchase.

With the implementation of these strategies, the company will have to take measures in order to control their development and evaluate their results.

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