



Faculty of Legal Sciences
Escuela de estudios internacionales: mención
comercio exterior

African Contact Cement export logistics process

Graduation work prior to obtaining the degree of
Bachelor of Arts in International Studies with a
Bilingual Mention in Foreign Trade.

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Cuenca, Ecuador

2022

Dedication

I dedicate this work to my family, for their support in everything they have been able to give me, love, education and everything that has led to the completion of this university stage, and also for being my main guide to move forward and prosper.

Acknowledgment

My greatest thanks go to my parents, thanks to them I have completed this stage. They are my greatest admiration and I thank you for always trusting me. To my grandparents, for the love, advice and home they have given me in this city. To my brothers, niece and brothers-in-law, for always being there with their support, love and encouragement to finish this stage. To my professors for sharing their knowledge with us, their students. Finally, to my colleagues for the good times we have had together.

Abstract

The logistics process is the most important chain that can exist within a company, thanks to that process, there is an order, in order to make sure that every action performed satisfies the end consumer. It includes three general processes, which are supply, production and distribution, each process with specific and very extensive logistical movements.

The purpose of this work is to show how this logistic process works within the supply chain, using an export product which is African Contact Cement. In addition to analyzing how the company Adheplast is structured, who manufacture the product mentioned above, knowing what their problems are and proposing what could be the main solutions for continuous improvement using corrective measures.

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Introduction

The order in a company is what characterizes its success, having processes that involve customer satisfaction and greater profit gain. The logistics process in the supply chain helps to achieve this. However, without good process management, bottlenecks and losses, whether economic or material, can reach. Foreign trade is an industry in which you can win a lot or lose everything, This is why, by managing the logistic processes well, it is possible to obtain great benefits, taking into account and analyzing each one of the processes, verifying that everything is being accomplished correctly.

In Ecuador there are several nationally recognized exporting producers, among them is Adheplast with its nationally recognized star product, African Contact Cement, which is also exported to a few countries. For this reason, this work will analyze that product and company, validating its problems and proposing possible solutions.

This research work is divided into 3 chapters, which consist of the collection of information on how the logistics process is achieved, on the company and product to be analyzed, and on the problem statement with its possible solutions.

In the first chapter we will analyze and know what the logistic process is about, among them we will know a little of its history, concepts, management, how an effective business communication is achieved, the description of the product to be studied and the distribution flow.

The second chapter contains information about the company Adheplast and the product African contact cement. The management model of the company's logistic chain will be presented, including the description of the organization, the organizational structure, how its SWOT is structured, market segment, analysis of African contact cement

exports, analysis of the international market and possible countries to export to, what is your process map, and how is each area structured within the company, either structural or service areas.

Finally, the third chapter will present the main problems found within the institution and within the logistic process that can generate inconveniences for users., and to know what corrective measures can be used, using the Deming circle to propose possible solutions.

Chapter 1: Analysis of the logistic process management model for the export of "African" Contact Cement

1.1 Brief history of the supply chain as part of logistics within foreign trade.

Logistics is a fundamental part of foreign trade, especially if you must comply with the rules and laws that are established in the constitution when exporting and importing a product.

The development of good logistics at the national and global level indicates a good economic and marketing start-up that allows countries to develop their trade, both internally and externally, in order to improve its growth. Therefore, without international or national logistics, there can be no good performance in trade, which makes it important at a global level.

In order to comply with its own logistic process, a logistics chain must contract this service, which includes, loading and transport from origin, export customs clear an international vehicle loading, international transport, unloading in the country of destination customs clearance and import taxes, inland transportation and unloading in the country of destination.

However, the logistics chain is the chain of processes involved in the action of satisfying the customer's needs, either through consumer goods or services allowing organizations to improve internal processes in order to maintain their competitiveness and fully satisfy the market and management. (Instituto Tecnológico Argón y Fundación OPTI, 2006). This methodology became known in the 1960s, due to the competitive environment faced by organizations.

Its history is marked where, logistics and trade were growing over time. This revolution helped the supply chain to improve with the existence of ships and

railroads, in addition to logistics being upgraded for the supply of weapons, food and more. World War I and World War II helped bring about major changes in the industry, making the world more globalized and with more needs for the supply chain to be perfected and the manufacture of products to become fundamental to making a consumerist world.

The name "supply chain" was first announced in an interview by a logistics specialist, Keith Oliver, on 1982, where after a certain period of time he was adapting to the business area lexically (Antón, 2012), naming this important process for all companies.

As mentioned, it has been improved and updated to the present, becoming more automated and technological. There are four industrial revolutions that have changed the world over the years. The first industrial revolution brought the steam engine. The second industrial revolution was characterized by mass production with the help of electricity, The third industrial revolution, created electronic automation. and we are currently in the fourth industrial revolution where there is a tool that goes hand in hand with the supply chain, Information and Communication Technologies, which are an effective tool in the transformation of management. The new system allows us to focus on the needs of our potential customers, i.e. distributors, suppliers, vendors, and allows us to focus on the needs of our potential customers.

According to the authors Calatayud and Katz (2019) from the book Supply Chain 4.0, the main digital media that are of great help to the supply chain is the internet, big data analytics, which refers to the ability to process very large databases, artificial intelligence that through algorithms allows a computer to learn routines without being programmed, robotics and 3D printing. All these mean help to achieve

gains in time, cost, agility and risk management to obtain a good performance in the supply chain.

1.2 Concepts of the logistics chain

Since the name was given to this process, which is the logistics chain, many people or organizations have given a different concept to this development, but with the same meaning. Among all those who have given their concept are:

Adriana Reyes, in the magazine Ejecutivos de Finanzas (2004), explains that:

“The concept with which logistics was accepted was the management of all activities that facilitate the movement of products and the coordination of supply and demand. in the optimization of utility over time and production to offer the right product at the right place with the right quantity at the right time and at the right cost.”

In the book “Logística Empresarial”, it explains that:

"It is about applying a systemic approach to the total management of information, material and service flows from raw material suppliers through factories and warehouses, to the end customer" (Carro & Gonzales, 2015).

Martin Christopher, author of Logistics & supply Chain Management refers to:

“This is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders”

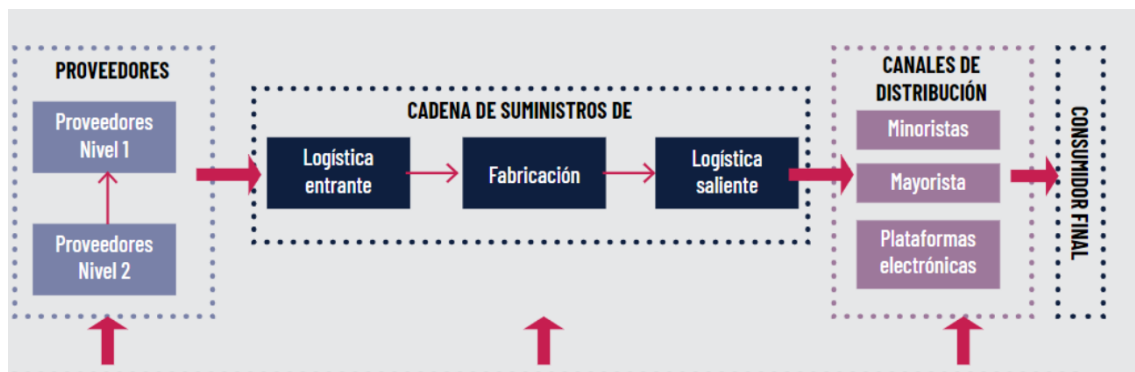
(Christopher, 2011)

Having several concepts from different authors or organizations about the logistics chain, we can obtain our own definition. This chain is the fundamental logistic process

for each company to manage its production and reach the customer's hands, satisfying their needs, This process is in charge of managing the supply of raw materials until the product reaches the customer's hands, doing it in an orderly, practical and fast way to avoid the disorder that can cause economic losses, with fair costs and short times..

1.3 Supply chain management

Picture 1: Main actors within a logistics chain.



Author: Agustina Calatayud & Raúl Katz

The logistics chain is the process of direct and indirect activities of a product until it is sold. Without this process, there would be no order to reach the final consumer with the product to be marketed. One of the main functions is to satisfy the customer's needs. This is a very broad branch that deals with three important points, which are: supply, production and distribution, as shown in Figure 1.

A large number of actors are involved in these processes to ensure an efficient logistics chain in an orderly manner so that there are no economic or customer losses., since the main objective of this chain is customer satisfaction. These actors also streamline the flow of products and information throughout the logistics chain. According to Calatayud and Katz (2019), the main actors involved in streamlining these processes are input suppliers, manufacturing companies, wholesalers and retailers, transportation companies, control agencies, technology providers, financial service providers.

What we see in Figure 1 is exactly the logistics chain process in an orderly manner, where the manufacturing or service company receives the raw material or materials to be able to work with them. This step involves input suppliers or manufacturing companies, following with the production of the product. This is where the control organizations are managed and part of the industrial technology intervenes, in order to end up with the distribution channels, where it is partly in charge of the logistics, where transportation companies, wholesale consumers, retailers, electronic platforms for sales and marketing are handled so that the final consumer can enjoy the finished product.

It must be taken into account that before starting this whole process, a planning system must be put in place so that everything goes according to plan and correctly, to ensure that there are no errors at the time of preparing the logistics chain. Before making decisions, you must first plan for which Chopra and Meindl (2013) in their book Supply chain management tell us that the objective of planning is to satisfy demand and at the same time maximize profits, since it also solves problems that may be encountered along the way and make decisions to be in control when solving problems.

The logistics process takes as a reference the so-called supply chain, which is involved from the first phase of transformation that the raw material undergoes inside the factory and makes the product increase its price in each phase. The objective of logistics is to gain an advantage over the competition, and is specifically based on satisfying customer needs, so that the company can reach the desired market.

Logistics is linked to the management of the flow of goods and services, its process originates from the purchase and supply of raw materials by the suppliers in order to reach the consumers or customers who make use of the merchandise as they deem convenient, also considered is the information issued in each process that allows

reaching a consensus on the measures to be taken to generate customer satisfaction and costs of finished products.

1.4 Economic lot of the order

By economic order lot, we refer to the amount of finished product that must be in stock to avoid excess inventory, as it may cause several errors and losses within the company by not having coordination. In addition to the lot size, there is a break-even point to know how much the company must sell to recover the invested amount, so that later profits can be seen at the time of sale. These two concepts are accompanied by formulas for accurate data on the production process.

Lot size has an inventory management model, and as mentioned above, it is responsible for providing information to know the existing quantities in the finished product inventory. It is known as the EOQ model, which stands for Economic Order Quantity. One of the advantages and aids of this system is to know when to buy raw material for the production of a new batch and to make decisions.

According to Gallardo (2019), the advantages of the EOQ model is that it allows minimizing order costs by suggesting the purchase of a larger quantity in a smaller number of orders, also providing specific numbers regarding the amount of inventory to be held. He also states that the method is based on 5 assumptions, which are:

1. The rate of demand for the item is constant.
2. There are no restrictions on the size of each lot.
3. The only two relevant costs are the inventory holding cost and the fixed cost per lot for both raw material and production.
4. No advantage is gained by combining several orders addressed to the same supplier.

5. The waiting time is constant, so that the order quantity is complete.

That is why a formula is used for the realization of this calculation which is,

$$Q = \sqrt{\frac{2DS}{H}}$$

Where:

D: The demand for units per year.

S: Fixed production costs.

H: Costs to maintain products in inventory.

Q: Quantity to order.

Once the EOQ result is obtained, the total annual cost is calculated using the following formula:

$$TC = PD + \frac{HQ}{2} + \frac{SD}{Q}$$

Where:

TC: Total cost.

P: Is the price per unit of premium.

D: Order number.

S: Fixed production costs.

H: Costs to keep products in inventory.

Q: Quantity to order.

To understand these calculations of the economic quantity of the order and the total cost, I through explain it with an example taken from the book Operations management: strategy and analysis by Lee Krajewski.

The exercise says,” a mechanic uses 3500 gallons of oil per year, paying \$5 per gallon, a flat fee of \$15 each time he orders it and an inventory cost per gallon averaging \$3 per gallon per year.”

To find the total cost of the inventory we must find Q which is the quantity that should be ordered, applying the EOQ formula, but first we must clarify that:

- 3500 gallons per year would be D.
- \$15 is the fixed cost would be S.
- \$3 the inventory cost would be H.
- Q is the value we will find.

$$Q = \sqrt{\frac{2DS}{H}} \quad Q = \sqrt{\frac{2(3500)(15)}{3}} \quad Q = \sqrt{\frac{105000}{3}} \quad Q = \sqrt{35000} \quad Q = 187$$

Once the order quantity (Q) is found, we can find the total cost that would be spent on the inventory.

- \$5 is the price per gallon which would be P.
- 187 is the order quantity that would be Q.
- TC is the total cost we will find.

$$TC = PD + \frac{HQ}{2} + \frac{SD}{Q}$$

$$TC = (5)(3500) + \frac{(3)(187)}{2} + \frac{(15)(3500)}{187}$$

$$TC = 17500 + 280.5 + 280.74$$

$$TC = 18.061,24$$

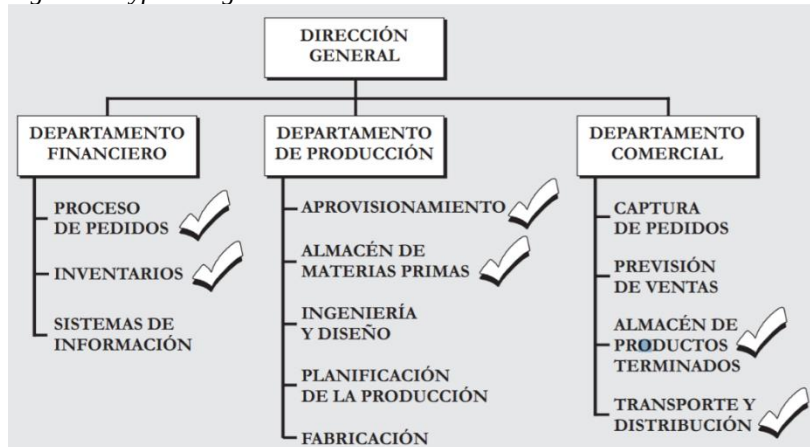
Given that the total cost of inventories is \$18,061.24 for the year, taking into account that if you ask for more it would mean more expenses or the opposite

1.5 Information and communication technologies in the context of the supply chain

To have an excellent supply chain management, there must be persistent communication. and clear between all the departments involved in this logistics process, where there may be three departments in charge of financial matters, of the producer and commercial issues, where each one would be in charge of activities dispersed in each department.

For example, in the finance department could be in charge of order processing inventories and information systems; in the production department would be responsible for procurement, raw material storage, product design, planning and manufacturing; In the commercial department, would be in charge of the reception of orders, inventory of finished product and finally distribution. As shown in Figure 2 taken from the book Logística Empresarial. (Carro & Gonzales, 2015)

Figure 2: Typical logistics activities



Autor: Roberto Carro & Daniel González

Logistics reaches a very important issue in any company, even worldwide, without logistics there would be no good distribution management of the finished product to customers. This is why the logistics department is responsible for more specific activities such as management and planning for product movement. As shown in figure 3 taken from the book *Logística Empresarial*. (Carro & Gonzales, 2015)

Figure 3: Typical logistics activities



Autor: Roberto Carro & Daniel González

In order to obtain a fast, reliable and orderly process, it is necessary to optimize, industrialize and innovate at all times, for better supply chain and logistics management, This would avoid risks and possible economic losses due to poor handling throughout

the process. In addition, clear communication must be encouraged among all collaborators involved in the development of the work, because the decisions that will be made in each of the departments will affect the components of the chain or sequence of the logistics process.

1.6 Product description

The product with which I am going to carry out this research topic is the “African contact cement”, this contact cement is the flagship product of the company Adheplast from the city of Cuenca, Ecuador. The company accounts for 40% to 50% of the company's production.

Contact cement is used for industrial and domestic use, where its bonding is considered to be effective in different items, ideal for the leather and furniture industry. It can be used to glue different objects such as: wood, leather and carpets, it can also dry quickly on the surface used (Grupo Sur, 2017). “African” contact cement has been the best-known cement in the industry for many years.

The product is made of different chemical products which are solvents, resins and rubbers, which dissolve in 11-hour processes at very high degrees Celsius, that product, as it contains solvents and chyme products, becomes a hazardous article when manufactured or transported, having a class three inflammation risk. On the other hand, after each manufacturing process, it has quality controls to verify its correct elaboration, as well as the ISO 9001 quality certificate.

According to Quimi (2019):

“The ISO 9001 certificate is an internationally recognized certificate that indicates to potential partners that a company is managed according to broadly accepted rules, which makes its operation stable in terms of procedures.”

In other words, it is a certificate that guarantees the buyer the quality of the product to be consumed, ensuring that the correct policies, documents, processes and procedures are in place for its development and that the product is of good quality and good condition.

Speaking of its presentation, they have different package sizes such as 0.16 liters, 0.76 liters, 14 kilograms, 5-gallon cans and 50-gallon tanks. Currently they have their classic presentation that they have had all this time in the yellow package as shown in Figure 4

Figure 4: Contact cement packaging



Autor: Adheplast

Among the different marketing channels for the product, Adheplast uses three channels when selling African contact cement. We find that it uses an audio-visual method that ensures that the buyer and seller contact each other through phone calls, also with e-mails, which is the most common method in this company, and finally digital, offering the product on their websites. It is worth mentioning that most of the sales of this product are wholesale.

1.7 Distribution Flow and different trade models.

Talk about the distribution flow, we can verify several channels that can be used at the moment of commercializing the product, which are the following:

Flow in channel	Changes due to the use of information in the channel
Physical possession	Lower inventory levels at the retail level
Promotions	More personalized promotions due to access to customer database
Negotiation	Better linkages and paperless approach to negotiation
Financing	Lower financing requirements due to reduced physical position
Risk	Enables better forecasting: inventory reduction, postponements due to technology
Orders	Automatic ordering, elimination of human intervention
Payments	Digital payments

There are different business models that are responsible for indicating which population or market they are targeting to provide their product or service. It is very important to recognize which market we are addressing in order to know the objectives to be proposed and to comply with what is proposed, in addition to knowing the business model we are going to have.

The main participants in any trade model include the company, the consumer and the government. Theoretically we will find with abbreviations such as B (Business), C like Consumer, G like Government.

When talking about trade models, the above-mentioned participants are involved, where they are classified as Business to Business (B2B), Business to

Consumer (B2C), Business to Government (B2G), Consumer to Business (C2B), Consumer to Consumer (C2C).

- B2B is about buying and selling between companies, in other words, the buyer acquires the product to resell it to different customers he may have. For example, the website Alibaba is a wholesale website that sells to retail companies at a good price.
- B2C refers to a business, large company or mini-company selling to the end consumer, who will use the product, such as online companies like Amazon sell to end consumers.
- B2G deals with companies that sell their products to the government or public administration.
- B2G deals with companies that sell their products to the government or public administration. This is more so with influencers who promote the product that the marketer has, in exchange for money or free products.
- C2C establishes a business between consumers, is given more for the sale and purchase of second-hand items. In other words, the buyer purchase used goods that the seller no longer needs.

Adheplast, has two business models, B2B and B2C. Because it has negotiations with different companies that resell the product to end consumers, it also sells its products to other companies as raw material for the manufacture of other products such as footwear or upholstery, which would convert it to B2C. It should be noted that Adheplast is a manufacturer of African contact cement.

Chapter 2: Model of the management of the logistics chain in a company

The logistic process has the purpose of having an orderly company so that the customer can be satisfied with the product in an effective manner, because the product meets the end customer's expected objectives. The latter is the main objective of the logistics chain, which makes it important within a company.

As mentioned in the previous chapter, the main logistics processes are based on three, which are: supply, production and distribution. If these processes are carried out correctly, the company will be able to meet its objectives and the expected satisfaction.

The company to be investigated and analyzed is Adheplast, a corporation dedicated to the manufacture of glues and paints and, in this case, African Contact Cement, which is manufactured by the aforementioned company, will be analyzed. This contact cement is nationally recognized and characterized by its high bonding strength, usually used in the manufacture or repair of footwear, textiles and upholstery. The product is sold domestically and internationally, with Colombia, Peru and Bolivia being the main export countries.

In this chapter will explain about Adheplast. The logistical process, the market and the countries where African contact cement is exported will also be analyzed and possible countries that could be exported, the structure of Adheplast and logistics chain.

2.1 Description of the organization

2.1.1 Company background

The company that created the product, African Contact Cement, of which the logistics process is being analyzed, is Adheplast. This is a company from Cuenca that is characterized by its efficient and good quality products, where it offers paints, resins and glues to the market.

Adheplast was registered with the state on May 27, 1985 as a formal corporation, that is, a company that divides its shares between more than two people according to the contribution of its shareholders, having more than 35 years in the market. The address is registered with the superintendent of companies in Guayaquil. However, the factory and the place where the company was created is in Cuenca. The factory is located in the industrial park of Cuenca, and the main offices are located in Cuenca, vía Racar, on the street Camino a San pedro del Cebollar. Its corporate purpose registered with the Superintendency of Companies is as follows “Production and marketing of adhesives and plastic products for industrial and artisanal use, through imports and exports.” Its capital is \$800,000.

This company is led by Ortiz Coop which is dedicated to the commercialization of several products at national and international level such as textiles, machinery, construction finishes, liquors, sausages, tools and more. The group has more than 60 years of experience in the market which has been building several companies led by this group, as is the case with Adheplast. The group is responsible for supplying the wholesale, retail or trade customer with its thousands of products on offer.

Adheplast's quality objectives are characterized by “Reach 80% of approved batches of products in process prior to packaging and any adjustments; deliver approved orders by order book in maximum 72 hours to remote warehouse locations and to all other locations in maximum 96 hours; achieve at least 80% customer satisfaction; achieve 80% delivery of complete items of orders requested by customers the first time;

achieve 80% delivery of complete items of orders requested by customers the first time”

(Adheplast, s/f)

The company’s **mission** is:

"To produce and commercialize quality paints, resins and glues, offering to the national and international market our products, at the best price, satisfying the needs of our clients, counting on human talent committed and motivated with the objectives of the company." (Adheplast, s/f)

The company’s **vision** is

“To be a leading company, nationally and internationally recognized in the market of paints, resins and adhesives, providing quality products, with continuous improvement in our processes to satisfy our customers, committed to the integral formation of our human talent and technological development according to current trends". (Adheplast, s/f)

The inventory of products that Adheplast manufactures are glues and paints, among them, are 24 glue, and are 26 paints products.

The paint products are as follows:

- Anticorrosivo duracolor
- Barniz selloplas
-Bases reflectoras
- Desoxiplas

- Durabarniz
- Duracolor techo
- Esmalte duracolor

- Esmalte y anticorrosivo 2 en 1
- Fondo acrílico
- Laca catalizada
-Latex Discovery
- Latex económico
- Latex plascolor
- Latex reflections
- Latex super fuerte

- Masiplast
- Nitroplas
- Pintura elastometrica
- Pintura en spray
- Pintura para dedos
- Preservante de madera
- Promotor de adherencia

- Removedor de pintura
- Sellador catalizado

- Sintético automotriz autoplast
- Tinte para madera

- The glue products are as follows

- Activador halogenizante
- Adheplast 2000
- Cemento de contacto africano
- Africano soplete
- Bioparket
- Bioplast
- Cemento de contacto super

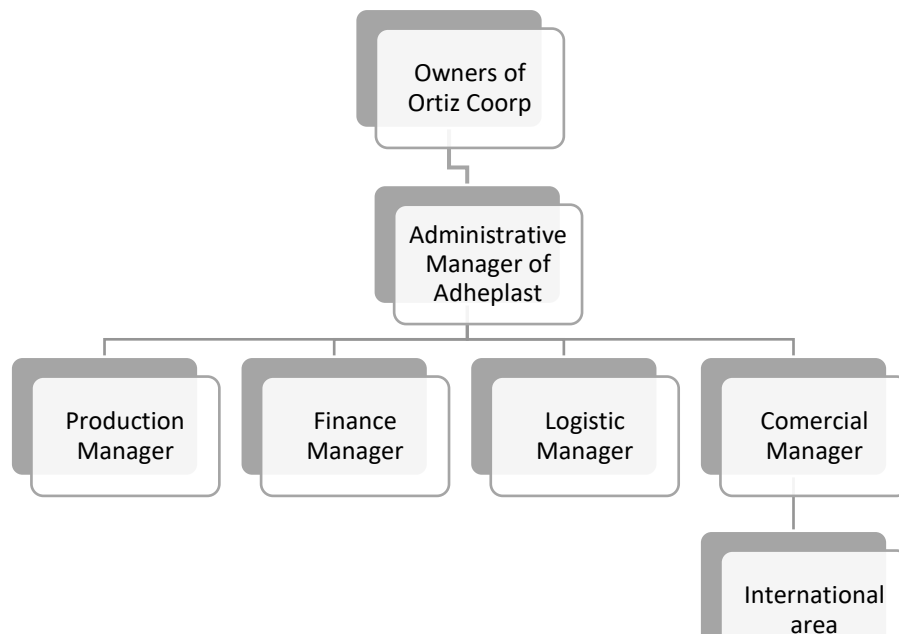
- Cola industrial
- Cola plástica
- Duracol
- Ecoplast
- Ecoresina
- Extra pvc
- Gomeros
- Hormiplastificante
- Llama roja
- P.U industrial

- Pega tubo
- Pega tubo extrafuerte
- Primer P.U
- Resinaplast
- Sintecol
- Cemento de contacto estándar
- Vulcanizante reticulante

2.2 Estructura Organizacional

Picture 5

Title: Adheplast's Organizational Structure



Autor: Rómulo Albarracín

Organizational structure, refers to the hierarchy that the company has from its superiors to the workers or laborers working in the factory. To begin with, it is worth mentioning that Adheplast has two manufacturing plants, one that manufactures paints and resins, and another that manufactures glues, both located in the industrial park in Cuenca. In this case, we will focus on the glue plant, where the glue is produced i.e. African Contact Cement.

The superiors in charge are the owners of the aforementioned Grupo Ortiz who are in charge of directing where they want to reach with the company followed by the manager who is in charge of the organization, direction and control of each of the areas that exist within Adheplast. There are then several areas within the corporate structure, such as the production area which is in charge of the manufacturing of each of the products. They are in charge of the supply of domestic raw materials to the packaging of the final product until it reaches the inventory, in the financial area, is in charge of the company's accounting, in the logistics area, is in charge of the distribution of the product nationwide. They hire the trucks so that the merchandise reaches the customers or distribution points, and in the commercial area are responsible for receiving customer orders for sale. In this sector is the area of foreign business where it that is responsible for international logistics ranging from the import of raw materials and exports of finished product.

2.3 SWOT Analysis

According to Riquelme (2016), the SWOT analysis "is a fundamental tool in management and in the planning process, in fact, with this study you will benefit from a business plan, being able to give strength to the acronym of opportunity, achieving, in addition, the real situation in which the company or project is, and to be able to plan some strategy for the future".

Figure 6
Title: Adheplast SWOT Matrix

STRENGTHS: - Internationalization of imports - Use of a computerized system - Updated information through web page - Increased business reputation - Complete attention to the commercialization of this material - Product range - Handling of large sales volumes	OPPORTUNITIES: - Uncovered market segments - Possible national and international participations - Management of external accounting. - Timely product delivery - Certified products
WEAKNESS: - Unstable labor climate - Lack of international market coverage - Lack of logistic chain identification	THREATS: - Entry of new companies in the sector - Political, economic or social changes - Substitute products

Autor: Rómulo Albarracín

Therefore, it is advised that they should reduce risk and distribute the portfolio well.

2.3.1 Market segment

Market segmentation is the identification of a group of buyers who have different consumer desires and who have different customers which, for a correct segmentation, must focus on the identification, sufficiency, stability and accessibility of the consumer.

Adheplast has two market segments in the African contact cement market:

1. Marketers engaged in the sale of the product, such as wholesalers and retailers, whether they are hardware stores, supermarkets or neighborhood stores.
2. End users, which are the large companies or industrial sector engaged in the manufacture of furniture, footwear, automotive upholstery, among others.

Both segments are Adheplast's main customers, with good accessibility for consumption or distribution.

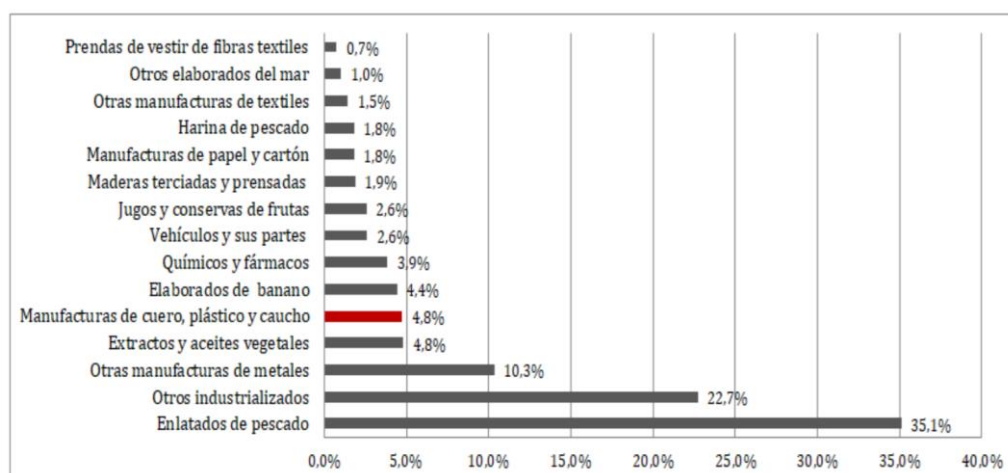
African contact cement is used more in the footwear industry, It will be used in this segment to identify how it is positioned in the market, given that no values or figures are found in the evolution of GDP with rubber-based glues.

According to economists Sánchez, Vayas, Mayorga and Freire (2020) of Technical University of Ambato, the manufacturing industry was among the top 18 in GDP contribution, having a contribution of 13% in 2019 generating an amount of \$13961.6 million USD.

Economists also tell us that "ECB statistics show that, total non-traditional industrialized exports were \$3,377,943 thousand USD in 2019, of which leather, plastic and rubber manufacturing ranks fifth in participation with 4.8%, reaching exports for \$160,623 thousand USD, a value that compared to 2018 presents a positive variation of 3.8%"

Figure 6: Share of leather, plastic and rubber manufacturing in non-traditional industrialized exports.

Title: Share of leather, plastic and rubber manufacturing in non-traditional industrialized exports.



Autor: Econ. Ana María Sánchez, Econ. Tatiana Vayas, Ing. Fernando Mayorga, Ing.

Carolina Freire

2.4 Export logistics analysis of the African Contact Cement product

Through the main functions of the exporter, Adheplast, we will be able to have a clearer perspective of what is executed in the logistics chain.

It should be noted that this study will focus on the different customers, products and suppliers, because it will synthesize the function of the chain without expanding.

2.4.1 Market

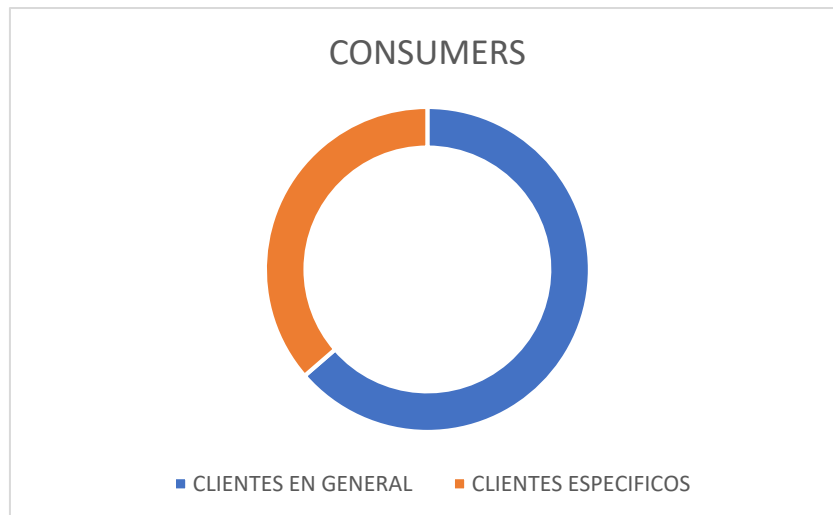
2.4.1.1 Current market

African contact cement is a hardware product, so the current market for this product is hardware stores or people engaged in the wholesale or retail business of these products, and since it is a product that is used industrially, its markets are also the textile, footwear and furniture industries, among others.

The current market that they have is preferring this product because of the years of experience that this African contact cement has in the market, this leads to excellent quality, as well as being reliable due to its gluing efficiency.

The majority of customers who purchase this product are more general public than specific customers, for the reason that there are higher sales in the 0.16 liter presentation, that is, the smallest presentation. On the other hand, specific customers consume in larger presentations, such as the 14 KG for industrial use

Figure 7
Title: Commercial distribution in consumers



Autor: Rómulo Josué Albarracín Ortiz

The graph shows how consumers are distributed at the time of purchase of the African. Customers in general are more representative than specific customers.

2.4.2 Goal Market

Being a product with a good quality and a company with a lot of experience, they should increase their international market by offering African contact cement to more foreign customers and not only to the three countries it is currently exporting to. Therefore, one of the objectives of this research is to make a marketing analysis and a possible target market, to increase the international market and that the African contact cement is recognized in more countries.

To start, contact cement can function as a raw material for large footwear or textile industries and for domestic use, so the company can seek foreign customers to offer the product. For this purpose, we can participate in different international fairs to make ourselves known or visit different industries presenting the African contact cement. In order to obtain a possible market, The countries that could use these products can be analyzed, including textile-producing countries and those that manufacture

footwear or other industrial products. Among them are Mexico and Brazil because of their high rates of textile production.

In order to enter the Mexican market, the name "contact cement" should first be changed to "contact glue" because that is how this product is recognized in Mexico. Obviously change the name only for export, since in Ecuador it is known as the original name. The tariff item of this product is 3506.91.00.20 where it specifies that they are rubber-based adhesives since this product is made of rubber and resins.

According to the report of García (2012) states that Ecuador and Mexico are members of the Latin American Integration Association (ALADI), where they have tariff preferences according to the different agreements, they have in this international treaty to which they are part.

Mexico has restrictions related to imports of hazardous products or products with toxic substances, only when the importer has the necessary requirements and technical standards for importation, the product may enter the country without any problem. According to Garcia, those requirements for the importation of products into Mexico are as follows:

- Mexican importers must have the zoosanitary or phytosanitary import certificate.
- Ecuadorian products, from agro-industry to the different manufacturing groups, must comply with specific technical standards per product, called Mexican Standard -NMX-, established by the General Directorate of Standards, under the coordination of the Ministry of Economy.
- The labeling of products imported for sale in Mexico must contain the following information: name and address of the importer, name and address of the

exporter, brand and commercial name of the product, product content, instructions for use, handling and specific care, warnings or precautions for toxic or hazardous products.

- ALADI certificates of origin apply.

The next target market for exports is Brazil. Brazil is also known for its good quality footwear, furniture and textile products, where it is desirable to export cement as a raw material or for distribution to the retail market.

Brazil is also a member of ALADI, this means that it also has trade agreements with Ecuador that favor the entry of Ecuadorian products into Brazilian territory, where García acknowledges that there are 6,616 duty-free products.

Brazil, like any other country, also has rules and regulations for the entry of imported products, in this case they are:

- There are regulations governing the quality, labeling, weights and measures of the products.
- Importers must have import licenses
- The packaging must have the following information: list of ingredients, net contents, identification of origin, name or company name and address of the importer, lot identification, instructions for use.
- Technical regulations, general criteria and classification of product materials.
- Regulations that establish the quality characteristics that products must meet.

When doing a marketing analysis in both countries or in any other country you want to export to, you have to adapt the product to the market with a culturization. For example, changing the language of the packaging to adapt to the market, as I said in the case of Mexico, changing the word "cement" to "glue" and in the case of Brazil,

translating the entire text of the packaging into Portuguese. One thing that should be changed about the product is the packaging, making it more eye-catching and up-to-date, since the current packaging has been handled used for many years, making it very rustic today. These product changes could be made without changing the good quality of the content. An example that could be used to change the packaging is shown in Figure 8.

Figura 8
Título: grafico representativo del African Contact Cement



Autor: Adheplast

2.4.1.1 Current and potential target market

As a company with a product that has been in existence for many years, it has already reached its current and potential target market nationwide, being one of the most sold and recognized contact cements in Ecuador.

Adheplast's potential market is the wholesale market, where the most sold presentation is the 0.16 L. Among the wholesalers we could say that they are hardware stores or businesses related to this target.

2.4.3 International market

To learn about the international market for African contact cement, I had an interview with the production manager of Adheplast's glue plant. He stated that the foreign market they have is based on seven clients in three Latin American countries, which are Peru with three clients, Colombia with three clients and Bolivia with one client.

The orders they normally receive from abroad are once a month, where each order is for two 20-foot containers, as requested by the customer. Each container of that size can hold 90,000 small bottles of 0.16 liters, which is the presentation that sells the most both nationally and internationally. The workers manage to fill a container in 8 working days due to the high demand for the product. Each container they export reaches a weight of 26.50 tons, where they perform the weighing before the container is shipped, because they have a certified scale and leave with export seals indicating that the product is class 3 flammable.

When analyzing the countries that import African contact cement, which as mentioned above are Peru, Colombia and Bolivia, it was verified that they are manufacturing countries engaged in leather, textiles, footwear, among others. In addition, they are partner countries of Ecuador where they have free trade agreements such as the Cartagena Agreement that these three countries, including Ecuador, are part of for commercial and social benefit.

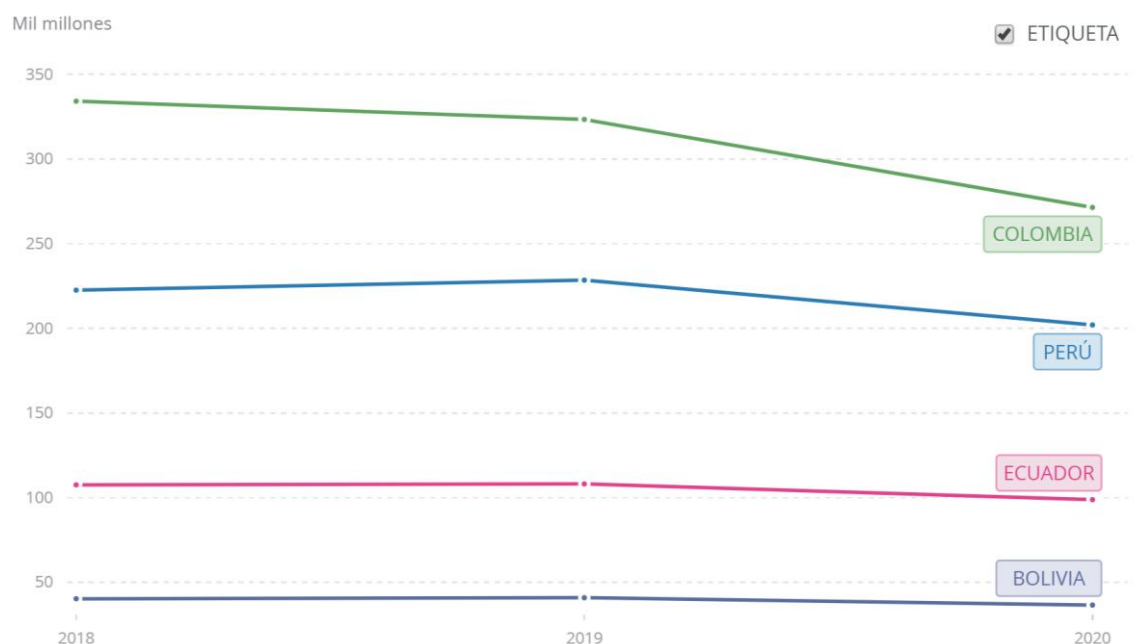
According to the CIA, the world factbook which is a page that reflects the official data of the countries, Colombia is a major exporter of energy and mining, where it is the fourth largest oil producer, the third largest coffee exporter and the second largest flower exporter in Latin America. It is currently affected by security and drug trafficking, that its economy has been slowing down little by little since 2017 due to the drop in oil prices, having a GDP of \$271,438 billion U.S. dollars in 2020, negative

value compared to 2019 which was \$323.43 billion and 2018 which was \$334.198 billion, according to world bank statistics.

Peru is characterized by the extraction of metals and minerals, according to the Peruvian government's official website, Peru's Ministry of Foreign Trade and Tourism stated that in the first eight months of 2021 they grew by 44.6% compared to the same period in 2020, The company has earnings of \$34,365 million dollars, with jewelry, metallurgy, textiles, fishing and mining being the most exported products in that country. (Ministry of Foreign Trade and Tourism, 2021English). However, speaking of Peru's GDP at \$202,014 billion in 2020, was low compared to 2019 which was \$228.471 billion and 2018 which was \$222.515 billion. (World Bank, 2021)

Finally, Bolivia, according to the CIA factbook, is a country rich in natural resources such as natural gas, which is its main export product to Brazil and Argentina, but it is one of the least developed countries in Latin America due to its policies that do not help to advance foreign investment in its main products such as mining and hydrocarbons. According to World Bank data, Bolivia is the country with the lowest GDP compared to the three countries including Ecuador, as shown in Graph 6, having a GDP of \$36,573 billion in 2020, while in 2019 it had a GDP of \$40,895 billion and in 2018 \$40,288 billion.

Figura 9
Título: comparación del PIB



Author: world bank.

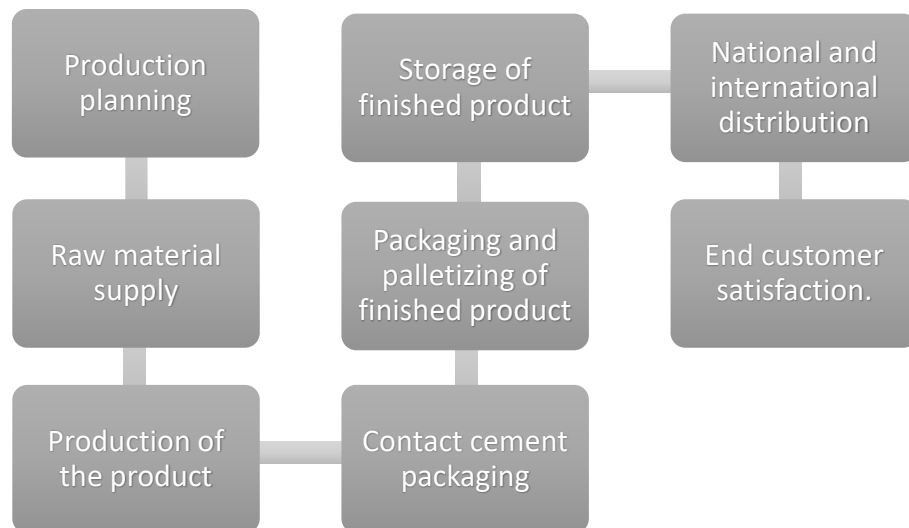
Figure 9 represents the GDP level of the three countries discussed above including Ecuador, to graphically compare how their trajectory was from 2018 to 2020. Colombia having the highest GDP, followed by Peru, Ecuador and finally Bolivia.

2.4.4 Customers

The main customers as mentioned above are classified between wholesalers and producers who use contact cement as raw material. The product can reach end consumers who use it in case of emergency in their homes. For example, a rustic house should never be without African contact cement when it is necessary to repair shoes, furniture or upholstery.

2.5 Process Map

Figure 10
Title: logistics process map



Autor: Rómulo Josué Albarracín Ortiz

To begin with the logistical process of the Adheplast company in the manufacture of African contact cement, it is worth mentioning that most companies use the same process, since it allows to maintain order within the company for the elaboration of the product and to satisfy the needs of the client, which is the main objective of the logistic process.

The first step is production planning, which establishes how much and for how many days a product will be produced. Based on this, a supply plan is drawn up, in order to know how much raw material must be acquired to produce according to the original plan. After sourcing, we proceed to the production of the product, which is nothing more than the mixture of all the products. Once processing is complete, each jar, in this case of contact cement, is packed so that it can be packaged and placed on pallets so that it can be easily handled with forklifts. The product is stored for a while until transportation can be contracted for national and international distribution. Depending on the orders that the company has, it is distributed to different parts of the country and the world, so that finally the customer can enjoy the final product satisfying their needs at the time of consuming the merchandise.

2.6 Synthesized identification of the logistics process

As mentioned in the first chapter, logistics is based on three processes that are important for the product to reach the final consumer: supply, production and distribution. In this subchapter I added two more processes to understand how Adheplast manages the supply chain to manufacture African contact cement.

2.7 Supply

Sourcing is responsible for supplying raw materials for the production of contact cement and other products that they manufacture. In this case, speaking of Africano contact cement, they use only three products, which are resins, rubbers and solvents. The company has national and international suppliers, where the solvents are imported, and the rest of the products are purchased domestically.

The production manager is in charge of deciding when to source raw materials, usually ordering material every three weeks or depending on market demand. In the case of imports, two people are in charge of bringing the raw materials, the one who places the orders with the suppliers and the one who is in charge of logistics coordination, and in the case of domestic suppliers, only one person is in charge of placing the order and logistics coordination.

2.8 Sales order

There is a sales department, which is in charge of receiving orders from national and international customers. When the order is received, the sales agents communicate with the factory, directly with the production manager, who is in charge of managing how much will be produced and how much raw material will be consumed.

Orders are usually placed through the company's e-mail and that department is located at Grupo Ortiz's offices in RACAR Plaza.

Retail prices for the different presentations of African contact cement are as follows:

0.16 litros	\$1.05
1 litro 1/4	\$3.60
1 galón	\$9

2.8.1 Production

Africano Contact Cement represents between 40% to 50% of production among all Adheplast's products. After receiving the customer's order comes the production of the product, which is an 11-hour manufacturing process.

At high temperatures, all raw materials, including resins, solvents and rubbers, are mixed and dissolved. The entire manufacturing process is based on agitation only. The raw material is placed in huge tanks and mixed like a giant blender. Once the manufacturing process is finished, the temperature of the contact cement is lowered so that it can be handled and the product quality test is performed, and then the packaging process is carried out.

For the manufacture and handling of Africano Contact Cement, it is important to use the appropriate means of protection, such as gloves, masks, protective goggles and clothing that protects the skin, since toxic products that can cause harm to humans are being handled.

2.8.2 Packing

Once the production is finished and the quality of the product has been verified, it is packaged. The packaging is according to the product inside, in this case the

packaging is made of metal so that the contact cement does not lose its consistency and quality and that the product reaches in perfect conditions, in all its presentations it has the metal packaging.

The packaging is manufactured by Fadesa, a company from Guayaquil that manufactures packaging made of any material, in this case made of metal that guarantees the care of the product inside. The packaging of African contact cement is not automated, rather a manual method is used, where they put it in 55 gallon metal tanks and with a pipe added to a faucet they fill the container with the product. As shown in Figure 11 and 12

Figure 11
Title: Packing system



Autor: Rómulo Josué Albarracín Ortiz

Figure 12
Title: Packing system



Autor: Rómulo Josué Albarracín Ortiz

The packaging, is where the gaskets are kept. In this case, the packaging is a carton that holds 160 0.16 L containers. The purpose of each package is to store and protect the goods, The package must also have the specifications of how the package should be handled. In the case of this product it is specified that it is a flammable product. The name of the producer, the number of packages in each carton, the name of the product, a small technical data sheet and the approved quality seal. As shown in the following figures 13, 14 and 15

Figure 13
Title: Packaging of contact cement



Autor: Rómulo Albarracín

Figure 14
Title: Packaging of contact cement



Autor: Rómulo Albarracín Ortiz

Figure 15
Title: Packaging of contact cement



Autor: Rómulo Albarracín Ortiz

2.8.3 Logistic distribution

After the product is wrapped, packed and on pallets, the finished product must be distributed to the customer. This becomes a unitized general cargo, which is the loading of individual items on pallets that leads to safe handling.

In order to develop a good distribution logistics management, it is necessary to take into account time and place, that is, to deliver the goods at the agreed time and place of the customer's choice. The main objective of logistics distribution is to contribute to the transportation of the product in the agreed quantity, time, place and at the lowest cost, satisfying the customer's needs.

There are three physical distribution models: short channel, medium channel and long channel.

- **Short channel:** the product is shipped from the factory to the final consumers.
- **Medium channel:** the producer sells to different wholesale distributors, then to the retailer until reaching the final customer.
- **Long channel:** the manufacturer supplies the products through a large network of intermediaries.

Adheplast, being a manufacturer, uses all three channels, since it allows distributing its products to different people, distributors until it reaches the final customer.

2.8 Inventory

Caldentey and Pizarro (2016) says state that inventory management is a group of products used in an institution whether they are raw materials, finished products or products in process to be sold or used in a future demand.

The main objective is to “Inventory represents a significant percentage of a company's working capital. Therefore, the first objective is to increase the profitability of the organization through proper inventory utilization by predicting the impact of corporate policies on stock levels, and minimizing the total cost of logistics activities while ensuring the level of service delivered to the customer.”

2.10 Storage

The storage of the African Contact Cement, as stated in the technical data sheet, should be in a large, dry and well-ventilated place, away from heat or fire because it is a flammable product.

The company stores the finished product in a warehouse exclusively for this contact cement. The demand for these products is so great that they have a large storage capacity. They pile up large quantities of boxes of the presentation of 0.16 L. In addition, they will always have this product in stock and in this presentation.

It was previously mentioned that it takes approximately one week to fill a container of this product, that is why, as they pack, they keep the contact cement until it is time to load the container. Figures 16 and 17 show how Adheplast's star product is stored.

Figure 16
Title: Storage of African contact cement



Autor: Rómulo Albarracín Ortiz

Figure 17
Title: Storage of African contact cement



Autor: Rómulo Albarracín Ortiz

2.11 Warehouse Infrastructure

The warehouse infrastructure is like any other storage facility. The finished product warehouse is a large, well ventilated and roofed warehouse so that the goods are not damaged. That warehouse has space for thousands of boxes of African contact cement alone. The authorities of the establishment do not know the exact amount of how much can enter, but at a glance it can be verified that there are thousands. As shown in Figures 16 and 17, this is the storage system that they have. In one corner of this warehouse is the coding machine, which is responsible for printing the lot number, bar code, processing date and expiration date of certain products.

Not only do they have a warehouse for the finished product, but also for storing raw materials and empty packaging. The raw material storage system is more careful, as they are flammable products and require special care. It is important that inside the cellar there is no heat and has more ventilation. The raw material is stored in plastic and metal tanks, where it is stacked in an orderly and classified manner. The empty packaging is also kept in a corner of that warehouse, where it is stored in bags, as shown in Figure 19, since the packaging is provided by the company. Fadesa de Guayaquil, company specialized in metal packaging.

Figura 19
Título: almacenaje de envases vacíos



Autor: Rómulo Albarracín Ortiz

Figura 20
Título: almacenaje de envases vacíos



Autor: Rómulo Albarracín Ortiz

2.12 Demand forecasting

Ortiz (2020) specifies that demand forecasting is to calculate the volume of sales of each product in a given future, in order to know and calculate the purchases and supply of raw materials so that there is never a shortage of raw materials at the time of production. specifies that demand forecasting is to calculate the volume of sales of each product in a given future, in order to know and calculate the purchases and supply of raw materials so that there is never a shortage of raw materials at the time of production.

According to Pérez, Medina, Alonso y Ramírez (2007) "Forecasts of the demand for a service or product are necessary; these forecasts are made more for the output of the operation than for the input. The objective of planning is to convert the projected output into input requirements for raw materials, personnel, equipment, facilities, management, etc.; both forecasting and planning should be done not only for the long term, but also for the medium to short term."

According to the interview I had with Adheplast's production manager, the demand forecast they handle is not that complex, in fact, they do not look to the future, but rather the forecast they manage depends on the orders they have. The raw material stock is always managed up to a limit, and when they reach half of the stock, they

restock to continue production. In addition, finished product inventory is always kept full so that distribution never ends or creates bottlenecks. It should be noted that this is a product that has been produced for many years, therefore, production and supply does not vary so much from year to year because the process is already known and controlled.

2.13 Internal transport

The internal transportation that Adheplast has for the distribution of the final product is handled by the logistics coordinator who manages the transportation of the entire group, where the engineer receives the order of how many trucks the factory needs to deliver the product, either internally in the city or for nationwide distribution.

They have two types of transportation, as I said before, internal and national. Internally in the city of Cuenca it is handled with the company's trucks, so that it is distributed to the different Coral hypermarkets in the city, to customers in Cuenca or other cantons of the province. For the national level, the logistic coordinator hires trucks outside the company, where not only Adheplast's products are transported, but also products from other companies that are part of Grupo Ortiz.

The product goes on pallets, whether in ground or air transport, the product will always go on pallets. If we talk about the presentation of 14 KG, it goes in a tin can where 32 contact cement of 14 KG fit, as shown in figure 21.

Figura 21
Título: Paletización del producto



Autor: Rómulo Albarracín

On the other hand, in the most sold presentation, which is the 0.16 L, it is packed in boxes, each box contains 160 containers of African contact cement, and each pallet can be stacked up to 5 boxes as stated on the packaging. So each pallet can hold 36 cases of finished product. As shown in Figure 22

*Figura 22
Título: paletización del producto*



Autor: Rómulo Albarracín Ortiz

2.14 Point-of-sale infrastructure

As mentioned in previous cases, the product should be stored in dry, ventilated places, under roof and away from sources of combustion.

Usually the product is stacked on hangers, as shown in the following figure

Figura 23

Título: Infraestructura de punto de venta



Autor: Rómulo Albarracín Ortiz

2.15 Customer Service

Customer service is very important, more than a logistic process, it is part of customer satisfaction, so that the customer can recommend, make a complaint or give an opinion about the product, so that the product or the company can evolve and be updated according to the opinions of the customers for their satisfaction.

As is well known, customer service can be digital, telephone or personal. In the case of Adheplast handles digital and telephone customer service, on its website it has a feedback service for each product and at the company level, it also has a telephone number for customers to call and an email to communicate, they also have social networks so that customers can communicate with confidence, although the responses are not very fast.

What I have noticed at the time of exploring the different pages, such as website, social networks, are not kept updated as it should be, also do not receive a quick response, which does not satisfy the customer.

For this reason, this company has years of experience in the market, which has allowed it to develop continuous decisions to reach the position it is currently in. The logistic chain has been identified from the entrance to the exit of the product. However, it can be seen that there are some links to improve in order to obtain a better response towards a more efficient and productive achievement of the goals in order to comply with future plans.

Chapter 3: Generating a strategy to make the logistic chain more effective

A company must always have a goal and reach further and further, surpassing itself until it becomes a giant company, orderly and that the product can reach any corner of the world, satisfying the needs of customers and generating great profits. Strategies are the help for that, with great planning and a good leader who works as a team you can reach that and more.

3.1 Problem formulation and approach

At the moment of analyzing, studying and investigating the company Adheplast, there have been few problems and different objectives that could be included in its work plan with the manufacture of the African contact cement.

Adheplast is a company that has been in the market for many years and has been growing little by little to be a medium-sized company, but it could grow more by implementing marketing and sales strategies. Although the star product, African Contact Cement, is the best-selling product and can be found in most of Ecuador, it could reach more countries and not only the three currently being marketed, which are Colombia, Peru and Bolivia.

That is why the main objective I would like to implement in this company is to increase international buyers, and that the product mentioned above is recognized worldwide, especially in Latin America, as it is a textile region and this product can be used for sale and for the manufacture of products.

One of the problems I have found with Adheplast is that they do not have an efficient customer service, because when the customer wants to communicate there are delays in contacting them. In addition, their website is not up to date and there is a mess in the product descriptions. For example, there are several products

in the web page that are no longer manufactured, but being in the web page gives to understand that it is for sale; also if you enter a product in the description you get another one. This is why it should be updated.

The image of African Contact Cement on packaging has been the same for many years, so it would not be a bad idea to update the image, especially if the company plans to open up to new international markets.

3.2 Corrective action strategy on the logistics process

According to the international standard ISO 9000:2015, published by the Secretaria Central de ISO (2015) corrective action is the "Action to eliminate the cause of a nonconformity and prevent its recurrence."

As the definition says, this is caused by a non-conformity of something that does not fit within the company's processes, where it must be corrected so that bottlenecks do not occur in the logistics process.

On the other hand, the international standard ISO 9001:2015 tells us about nonconformity and what the company must do so that this can change, using the corrective actions that ISO 9000:2015 explained to us. Where the company should do the following (Secretaría Central de ISO, 2015):

“a) React to the nonconformity and, when applicable:

- 1) Take action to control and correct it;
- 2) Deal with the consequences;

b) Evaluate the need for actions to eliminate the causes of the nonconformity, so that it does not recur or occur elsewhere, by:

- 1) Review and analysis of the nonconformity;
- 2) Determination of the causes of the nonconformity;

- 3) The determination of whether there are similar nonconformities, or potentially occurring nonconformities;
- c) Implement any necessary action;
- d) Review the effectiveness of any corrective action taken;
- e) If necessary, update the risks and opportunities identified during planning; and
- f) If necessary, make changes to the quality management system.

Corrective actions should be appropriate to the effects of the nonconformities found.

10.2.2 The organization shall maintain documented information as evidence of:

- a) The nature of the nonconformities and any subsequent actions taken.
- b) The results of any corrective action."

3.3 Proposal for the implementation of corrective action on the logistics process

Once the main problems in the logistic process and the strategies to achieve an effective corrective action are known, we can apply them to the company and product we are analyzing, which in this case is the African Contact Cement manufactured by Adheplast.

Since different problems were found, a proposal for corrective action will be made for each one, for the cases previously mentioned, such as better customer service, updating their website, changing the image of the product and opening up to more international markets.

In the case of customer service, you must first analyze whether people are properly trained for that, and identify the consequences that this could lead to, either loss of customers or customer dissatisfaction. Then you can analyze how to achieve a correct correction. In this case, you could suggest training the staff and adapting a customer service area, to handle the reception of calls or messages through social

networks, because they do not have a space or people who are dedicated only to that, whether they manage only Adheplast or several companies of the Ortiz group.

On the other hand, having updated information media such as the web page is important for the consumer to be satisfied with the product to be consumed. The Information and Communication Technology (ICT) area should be in charge of this. Therefore, my corrective proposal is to put a supervisor in charge of reviewing what is uploaded to social networks and the website, since customers take it as the main means to find out about the products they are looking for. A plan can be put together with the sales staff and keep up to date what is in stock and if something needs to be corrected in the product descriptions it should be done. But there must always be contact or communication with all personnel involved so that there is order in customer service and customer satisfaction.

By opening up to new international markets is to become recognized worldwide with a good quality Ecuadorian product and generate higher profits. My corrective proposal is not to be satisfied with the countries that are exporting and to become known worldwide, either by participating in international fairs promoting Africano Contact Cement, They can also conduct a market study to verify in which country they can launch the product for sale, getting buyers who really need this glue by promoting and investing in a good marketing incentivizing foreign countries to buy, since it would be a new product for them.

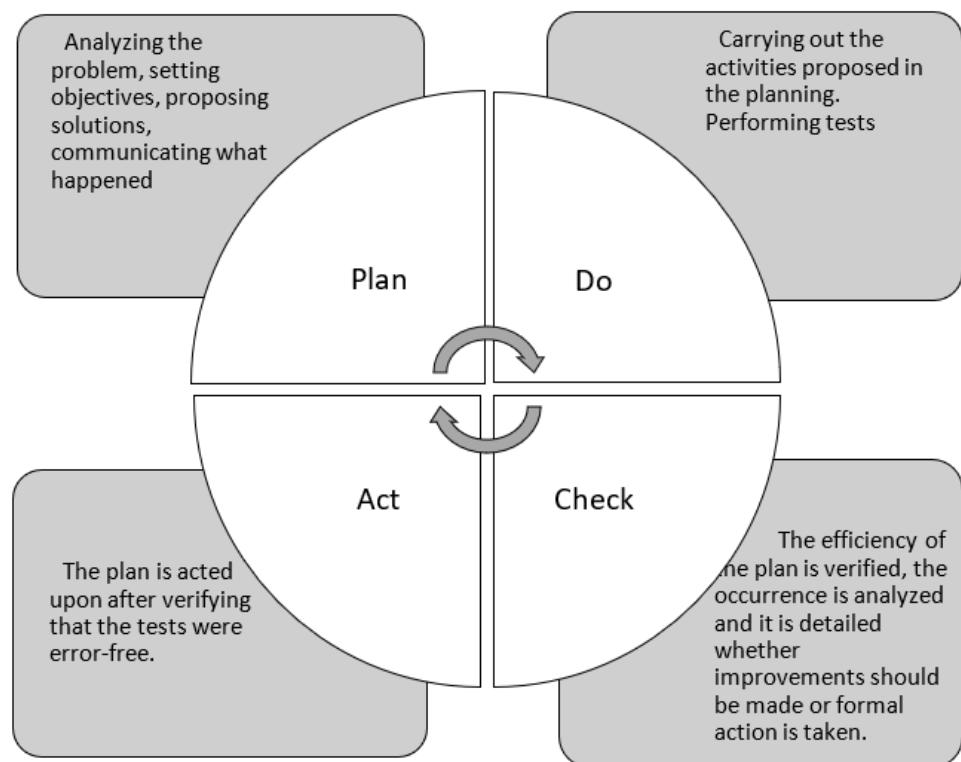
The important in all these measures is that the customer is satisfied with the product he/she wants to consume. Open up to new markets and do not be afraid of the success that can be achieved.

3.4 Application of the Deming circle (PDCA) for continuous performance improvement and effective decision making

According to Lady Castillo, the Deming circle is "A tool that focuses on problem solving and continuous improvement through an initial diagnosis, failures are identified to improve by comparing the plans with the results, then the undesired result is analyzed and a new design of measures is reconsidered to eliminate the problem and prevent it from recurring and achieve an acceptable result".

This instrument focuses on processes for quality improvement and customer satisfaction, PDCA as it is also known by its acronym which stands for Plan, Do, Check and Act. Figure 24 shows how each of the processes of the Deming circle is managed.

Figure 24
Title: Deming Cycle



Author: Rómulo Albarracín Ortiz

Once we know what the Deming Circle (PHVA) is all about and the problems we were able to find within Adheplast, this quality tool can be

approached in the following way based on the expansion of international markets, which is the most important proposal in this research.

3.4.1 Plan

The problem being analyzed is the few foreign destinations to which African contact cement is exported, there are opportunities to discover new markets and generate more profits. The solutions that can be considered are to participate in international fairs, promote the product with new buyers, with the objective of becoming known internationally, promoting contact cement.

3.4.2 Do

You can start with the search for new promoters to persuasively promote the product, which should be someone who speaks several languages, is persuasive and knows the product very well. More than that, it is also necessary to register in the fairs in which you can participate, whether they are national or international.

It is worth mentioning that the product should be kept as current as possible and with a striking design to attract the attention of customers.

3.4.3 Check

Here the efficiency of the proposed project can be seen, thus verifying if there should be changes or if the activities should be maintained as they have been carried out. It will be possible to validate if the promoter meets the requirements, if the international fairs are well received and if something is not convincing it has to be modified and re-planned.

3.4.4 Act

When acting, the projects are officially launched, with the objective of becoming known internationally and expanding international markets. It is worth mentioning that this Deming process has to be updated as time goes by, with the objective of ensuring quality and customer satisfaction.

Conclusion

In conclusion, the logistics process is an important chain for every company, where order is managed and maintained. The main objective of the logistics process is to obtain a quality product and satisfy the customer by taking into account the supply, production and distribution of the product to be manufactured. The aforementioned steps are the logistic process that every company should have in order, since as a result, the expected objectives are achieved, avoiding disasters that could occur.

Supply is in charge of having the raw material inventory for the production of the product, while production is based on producing the requested product and distribution is the logistical part of getting the product to the final consumer, they may be wholesalers, retailers or other manufacturers who use it as a raw material.

For a good management of the logistics chain, there must be a good communication within all areas, having a hierarchy in different areas of the company, such as the financial area, production area and logistics area. But that they are all connected to each other to avoid inconveniences or disorder.

The African contact cement is the star product of Adheplast, a company from Cuenca, which is used for industrial and domestic purposes. This contact cement is a flammable glue that is characterized by its high level of adhesion, where it is most commonly used in the footwear, textile and upholstery areas. This product is nationally recognized and has been manufactured for many years. Its manufacturing process takes 11 hours and it is a mixture of several products that are purchased nationally and internationally, it also has the quality certificates it should have. It is currently exported to three countries: Peru, Colombia and Bolivia, which is why we want to implement the proposal to increase international markets. It has several presentations in different sizes, but the most sold is the smallest presentation, which is 0.16 L.

Adheplast belongs to the Ortiz group, a group that has several companies, including manufacturers, importers and marketers, one of the largest in Ecuador, in charge of supplying wholesalers and retail customers. Adheplast has several products that it produces and markets, including paints, solvents and adhesives.

Adheplast's market is end customers such as individuals who use contact cement as a domestic product or manufacturers who use it as a raw material and wholesalers who use the product for sale in stores. On the other hand, the target market is the expansion of international markets, which as a proposal, Mexico and Brazil were mentioned due to their high level of textile production.

Analyzing the countries that are already exporting contact cement, we can find that Colombia is the country with the best resource and GDP maintained, followed by Peru and finally Bolivia. Ecuador is located between Peru and Bolivia, being the third country with a regular GDP among the four countries from 2018 to 2020.

The logistic process that Adheplast carries out in the manufacture of contact cement is in the planning, supply, production, product packaging, packing and palletizing, storage of finished product and distribution to the final customer with the different transports that the company contracts.

The problems that I could find in the research is the lack of good customer service such as updating the website, innovation in the design of the African contact cement packaging and the lack of reaching more international markets. Since all the problems encountered were important, more emphasis was placed on the last one. As corrective actions, it was recommended to include more of the international market and reach out to the customer. Promoting the African contact cement in different international fairs and investing in international marketing.

Recommendations

What I could recommend is that there be more access to the research within the company, the group and the data that we want to know, because it is a restricted for security reasons and to be able to have interviews with the workers you have to make an appointment in advance. The names of each worker mentioned or interviewed for this research were not mentioned due to company policies.

References

- Antón, R. (2012, Noviembre). Origen del término cadena de suministro.
<https://www.eoi.es/blogs/scm/2012/11/04/origen-del-termino-cadena-de-suministro/>
- Calatayud, A., & Katz, R. (18 de octubre de 2019). Cadena de suministro 4.0.
https://publications.iadb.org/publications/spanish/document/Cadena_de_suministro_4.0_Mejores_pr%C3%A1cticas_internacionales_y_hoja_de_ruta_para_America_Latina_es.pdf
- Carro, R., & Gonzales, D. (2015). Logística Empresarial.
http://nulan.mdp.edu.ar/1831/1/logistica_empresarial.pdf
- Chopra, S., & Meindl, P. (2013). Administración de la cadena de suministro.
https://www.academia.edu/32054312/Administracion_de_la_cadena_de_suministro_5ed_Sunil_Chopra_y_Peter_Meindl
- Christopher, M. (2011). Logistics & Supply Chain Management. Financial Times Prentice Hall.
- Gallardo, S. (2019). Gestión de Inventario como herramienta de control para la adquisición de.
<http://repositorio.uta.edu.ec/bitstream/123456789/29602/1/039%20GMC.pdf>
- Quimi, D. (2019). Sistemas de calidad enfocado a las normas ISO 9001 y 21001: caso Facultad de Ciencias Administrativas de la Universidad de Guayaquil. Obtenido de
http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202019000100279
- Suministro, A. M. (2020). Definiciones clave
https://www.aml.org.mx/DEFINICIONES_CLAVE_AML.pdf
- Riquelme Leiva, Matías (2016, Diciembre). FODA: Matriz o Análisis FODA – Una herramienta esencial para el estudio de la empresa. Santiago, Chile. Retrieved from <https://www.analisisfoda.com/>*
- Ministerio de comercio exterior y turismo (2021, octubre). Exportaciones crecen más de 40% en los primeros ocho meses del 2021:*

<https://www.gob.pe/institucion/mincetur/noticias/543513-exportaciones-crecenas-de-40-en-primeros-ocho-meses-del-2021>

Sánchez, A. Vayas, T. Mayorga, F. Freire , C. (S/f) *Industria manufacturera calzado y afines*: <https://blogs.cedia.org.ec/obest/wp-content/uploads/sites/7/2020/06/An%C3%A1lisis-calzado-29-mayo-2020.pdf>

Banco mundial (s/f). *PIB (US\$ a precios actuales) – Perú*: <https://datos.bancomundial.org/indicador/NY.GDP.MKTP.CD?end=2020&locations=PE&start=2016>

Ortiz, P (2020, Diciembre). *Previsión de la demanda y gestión de stocks*: clavei.es/blog/previsión-de-la-demanda-y-gestión-de-stocks/

Secretaría Central de ISO (2015). *Sistemas de gestión de calidad – Fundamentos y vocabulario ISO 9000:2015*. Recuperado de: <http://sigug.uniguajira.edu.co:8080/sigug/pdf/ISO%209000%202015.pdf>

Secretaría Central de ISO (2015). *Sistemas de gestión de calidad – Requisitos ISO 9001:2015*. Recuperado de: <http://www.itvalledelguadiana.edu.mx/ftp/Normas%20ISO/ISO%209001-2015%20Sistemas%20de%20Gesti%C3%B3n%20de%20la%20Calidad.pdf>

Castillo, L. (2019). *El modelo Deming (PHVA) como estrategia competitiva para realzar el potencial administrativo*. Recuperado de: <http://hdl.handle.net/10654/34875>.