



Faculty of Legal Sciences

Bachelor's Degree in International Studies

**Determinants of Chinese Pharmaceutical Imports into Ecuador Compared to Imports from
India. Case study DISMEDIC CIA. LTDO. period 2019-2022**

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Cuenca – Ecuador

Year 2024

DEDICATIONS

María Isabel Arévalo Orellana

I wasn't ready for you, but God knew what I needed. I was blessed with you, my best friend, my angel. My angel, who keeps me going and makes me a better person.

Martin.

Tatiana Alexandra Sánchez Ortega

After a difficult and joyful college experience, I thank God for having finished my studies, for all my effort dedicated to this thesis, and for proving to myself that dreams can be achieved. I dedicate my sacrifice to my grandfather Victor Felipe Ortega Campoverde, who from heaven will be happy to see me finish this stage of my life. I also dedicate it to my parents Segundo Mesías Sánchez Gómez and Fanny de Lourdes Ortega Villa for all the unconditional support they gave me during my studies. Also, to my friend Gabriela Valdivieso, with whom I shared many classrooms and helped each other since day one.

ACKNOWLEDGEMENT

María Isabel Arevalo Orellana

First of all, I would like to thank my parents and brother who have always given me their unconditional support and affection to help me achieve all my goals and never give up in the face of adversity. To my teachers who have been part of my university journey for transmitting me the necessary knowledge to be able to be here today.

Tatiana Alexandra Sanchez Ortega

I thank God and my parents for guiding me through this experience. I thank my teachers, especially Melita Vega and Ana Isabel Andrade for teaching me English, which is now my second language. Also, to Antonio Torres, for everything I have learned about Foreign Trade, in which I will be pursuing a master's degree to further my studies, to Damiano Scotton for his teachings, and to Juan Carlos Pauta for guiding me through this thesis process.

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Abstract

This research aimed at demonstrating the factors that increase imports of Chinese medicines in Ecuador through the collection of data and information covering the period between 2019 and 2022. In addition, its purpose was to analyze the imports of Dismedic, a firm that made national and international purchases that allowed it to grow as a company. Finally, the main objective of this study was to analyze and determine the strategies of imports from India or China as an alternative to do business in the pharmaceutical industry through a qualitative and quantitative comparison analysis of drug imports between the two countries in order to identify which country represents a comparative advantage for prices and profits, thus demonstrating to the company Dismedic which country is feasible for its next drug imports.

Keywords: Imports, China, India, Pharmaceutical market, Analysis, Dismedic

Introduction

The pharmaceutical industry represents one of the most relevant sectors in the economy of all countries due to its relationship with health, protection, research, and development, among other factors. Its social impact is very broad, making the industry maintain a direct commercial relationship with each state. The pharmaceutical sector has a very important role in Ecuador, not only because it is related to the socio-economic sphere, but also because it is closely linked to the welfare of the citizens of Ecuador. Health is a fundamental pillar in the life of human beings. It is necessary that today, Ecuador has better access to health and a better quality of life, thus the motivation of this research arises.

Ecuador has a high rate of imports specifically in the pharmaceutical sector, due to the lack of several factors that do not allow the elaboration of its products and a tendency to import more medicines as finished products. Our country, similarly to the Latin American market, has suffered from dependence of foreign production of medicines for prime materials, inputs, services, and technology, among others. The weak participation of the national production in the national and regional market is attributed to this situation.

The first chapter covers the imports of the Ecuadorian pharmaceutical sector during the years 2019-2022, the logistics and negotiation processes between China and Ecuador, the trade agreements in the pharmaceutical sector between China and Ecuador, and Ecuadorian laws applied in the area of health when it is considered a sanitary emergency.

The second chapter analyzes the pharmaceutical imports by Dismedic during the period 2019-2022. For this analysis we interpret the accounts that contribute to Dismedic's foreign trade and how much the company spent on each service contracted to carry out the import.

In the third chapter, we will analyze and determine import strategies as an alternative for doing business in the pharmaceutical industry by Dismedic in relation to India-Ecuador. To carry out this

chapter, we will perform a quali-quantitative analysis by compiling the total data of imports between China and India. A comparison will be made of the expenses of each service that Dismedic hired to carry out its import from China. The same import services from China to India will be quoted, and it will be interpreted by percentages if they increased or decreased the expenses from India. The analysis will also demonstrates which country, with its imports, generates more profit for the company.

Chapter 1

Determinants of Chinese pharmaceutical imports into Ecuador compared to imports from India. Case study DISMEDIC CIA. LTDO. period 2019-2022

1.1Bibliographic review

The pharmaceutical industry is based on innovation and competitiveness. Today, with the advancement of medicine, diseases can be detected or prevented in a more efficient way, thus saving the lives of many human beings. Health is a universal right and the necessary pillar for the development of other human rights. It is essential that States provide the necessary tools to comply with the standards established in the constitution of the World Health Organization (WHO); these being: availability, accessibility, acceptability and quality, since the lack of any one of them would imply the direct violation of this right (Guastay,2022).

The Ecuadorian pharmaceutical sector aims to be competitive and complete, i.e., it must have important pharmaceutical products in health care, together with trained professionals who find ways to prevent and cure diseases. On the other hand, imports benefit the world's economic development, since they are the acquisition of goods or products, raw materials that are not manufactured domestically, thus contributing to the improvement of the quality of the manufacturing, industrialization and commercialization processes to satisfy the needs of individuals and organizations. As Alberto & Renza (2017) point out, in order to enter Ecuadorian territory, the merchandise must comply with several parameters, norms, laws and decrees during the course of the importation process, for this it must be supervised by the government.

As a result of the COVID-19 pandemic, the Ecuadorian pharmaceutical industry was not prepared to supply the national population with the necessary drugs, due to the high demand of the population to acquire medicines, generating a shortage of medicines. In addition, several production sectors were affected by the temporary closure of international trade with China due to

the confinement, a restriction imposed by the Chinese government. However, the Internal Revenue Service (IRS) reported that the pharmaceutical industry was the only sector that achieved an increase in product sales. China became one of the main commercial partners of medicines for Ecuador during the pandemic (Primicias, 2020).

Background of the Ecuadorian Pharmaceutical Industry

According to Belisle, (1988), the Ecuadorian pharmaceutical industry developed during the XIX century, between 1900 and 1910, with several laboratories in the city of Guayaquil. In 1930, the first laboratories called HG and Bajner were developed. In 1940, the first pharmaceutical industry called LIFE was created. In 1960, the industrial development law was created by the national government as a benefit for the pharmaceutical sector, since laboratories specialized in importing drugs to meet the demand in the country. By 1980, Ecuador began to experience the growth of the pharmaceutical sector, several subsidiaries were created, which had to compete with existing companies. Thus, in 2005, the pharmaceutical sector achieved a participation in the Ecuadorian economy with a GDP of 2%. Between 2018 and 2022, the sector registered a GDP of 1.2% on average (Ficha sectorial de la fabricación de productos farmacéuticos, medicinales de sustancias químicas, 2023).

The pharmaceutical sector is made up of regional and local distributors, whose objective is to supply and distribute generic drugs and original drugs, whether of national or imported origin. It is also related to the private sector as the backbone of the national pharmaceutical economy, which accounts for 70% of the total market and 30% left over for the public health system (Ortiz, et al. 2018).

Currently, the Ecuadorian pharmaceutical sector drives the economy to be immersed in trade, manufacturing, innovation and investment, becoming a source of employment for the country.

It is characterized by having a reduced size of economic operators and, at the same time, for being a region especially importer of medicines, dependent on foreign raw materials. It has transnational companies where the firms come from with their first commercial partners (Superintendencia del Control del mercado, 2015).

1. 1 Imports of the Ecuadorian pharmaceutical sector.

Between 2019 and 2022, according to trade statistics for the international development of companies (Trade Map), total imports by the Ecuadorian pharmaceutical sector are expected to increase in the next three years. International business development (Trade Map), the total imports made by Ecuador for 2019 was \$22,393,118.00. Ecuador for 2019 was \$22,393,118.00, in 2020 there is a decrease of 20% with a value of \$17.80 million. In 2020 there was a decrease of 20% with a value of \$17,803,362.00, during 2021 the figure was \$25,719,892.00 with a growth of 44%., and for the year 2022 the import demand was \$33,048,924.00, an increase of 28%. Ecuador's main imports were: mineral fuels, mineral oils, vehicles, nuclear reactors, boilers, machines, mechanical appliances and devices, machines, apparatus and electrical material, residues, wastes from the food industries of food industries, plastics and their manufacturers, and pharmaceutical products.

Table1 shows that pharmaceuticals reflect dynamism due to the health crisis since 2019. The sanitary crisis since 2019, this year reached a value of \$969,360,000, in 2020 there is a higher demand is registered with a total import value of \$1,055,141,000. To follow up, in 2021, the value was \$1,479,241,000 higher than in the previous year, and in 2022, imports show a total value of \$1,479,241,000. And for 2022 imports show a slight decrease with a value of \$1,299,103,000.

Table 1:
List of Products Imported by Ecuador 2019 – 2022

Products Description	Imported Value in 2019	Imported Value in 2020	Imported Value in 2021	Imported Value in 2022
All products	22.393.118	17.803.362	25.719.892	33.048.924
Mineral fuels, mineral oils and products of their distillation; bituminous substances.	4.378.702	2.814.001	4.883.269	8.047.148
Nuclear reactors, boilers, machinery, mechanical appliances; parts.	2.589.115	2.065.385	2.607.603	3.110.933
Vehicles, tractors, bicycles and other land transport vehicles, parts and accessories.	2.158.937	1.305.457	2.044.140	2.775.208
Electrical machinery, equipment and parts; sound recording or reproducing apparatus.	1.814.810	1.508.279	1.878.845	2.084.705
Residues and waste from the food industries; prepared animal foods.	824.632	793.302	1.154.192	1.637.492
Plastics and articles thereof.	1.001.647	852.589	1.398.601	1.606.119
Pharmaceutical products.	969.360	1.055.141	1.479.241	1.299.103

Source: (Trade Map, 2024)

Note: data is in thousands of U.S. dollars.

Based on the statistical data from Trade Map, the main importing countries for pharmaceutical products from Ecuador's pharmaceutical products between 2019 - 2022 were: United States of America, Colombia, Germany, Mexico, Argentina, China and India.

Table 2**Main importing countries of Ecuador for pharmaceutical products.**

Exporter	Imported Value in 2019	Imported Value in 2020	Imported Value in 2021	Imported Value in 2022
United States of America	110.906	95.845	177.127	156.616
Colombia	134.183	143.122	141.756	155.949
Germany	88.112	100.315	114.873	108.575
Mexico	80.949	65.668	76.686	87.237
Argentina	53.240	55.532	81.432	81.992
India	37.278	38.412	49.149	62.573
China	14.822	85.561	235.453	49.632

Note: data is in thousands of U.S. dollars.

Source: (Trade Map, 2024)

It is important to note that the export or import merchandise must be classified with the correct tariff nomenclature, in order to, in order to: quickly identify the merchandise regardless of the country where it is located, selection of homogeneous goods and speed up customs operations (Izam & UN. ECLAC. Division of International Trade and Integration, 2001). The nomenclature of the Harmonized System is composed of 6 numeric digits: 6 digits chapter, heading, subheading. Based on the above, Table 3 shows the products table 3 shows the products imported by Ecuador considering chapter 30, called: pharmaceutical products. The medicines with the highest demand according to the list by tariff heading are: 30.04, 30.02, 30.06, 30.05, 30.03 and 30.01.

Table 3
Pharmaceutical products imported by Ecuador

Code	Products Description	Imported Value 2019	Imported Value 2020	Imported Value 2021	Imported Value 2022
3004	Medicines consisting of mixed or unmixed products, prepared for therapeutic uses.	716.220	738.806	851.009	901.660
3002	Human blood; prepared animal blood for therapeutic, prophylactic, or diagnostic uses	192.686	268.484	576.629	331.526
3006	Pharmaceutical preparations and products from subheadings 3006.10.10 to 3006.93.00	43.178	32.733	35.717	47.356
3005	Dressings, adhesive tapes, poultices, wadding, gauze, bandages, and similar articles, impregnated.	13.836	10.577	10.730	14.497
3003	Medicines consisting of products mixed together, prepared for therapeutic uses.	2.324	3.453	3.415	3.193

3001	Glands and other organs for apitherapeutic uses, dried, powdered; extracts.	1.116	1.087	1.741	872
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Note: data is in thousands of U.S. dollars.

Source: (Trade Map, 2024)

1.2 Negotiation and logistics processes between China - Ecuador

As an introduction to the topic, the concept of negotiation should be kept in mind as a basic, formal and unstructured process between two or more parties seeking to achieve an agreement without the help of third parties (Ortiz, 2008). With the passage of time negotiations have increased between Ecuador and China, a country that has become a major and strategic partner for Ecuador in economic, political and social terms. The cooperation between these states is not only commercial and economic, but also technological, scientific and cultural.

This relationship has generated benefits such as: immediate and gradual tariff reductions, economic income, employment generation, and growth in the trade balance (Moran, Lozano, 2017).

International Negotiation Protocol

There are cultural aspects that influence the negotiations between China and Ecuador. Chinese people start the negotiations with a cordial greeting, shaking hands in a soft and prolonged manner. They introduce people in hierarchical order with their full name and the position they hold. They also try to establish their own rules of the game in order to put pressure on the foreign counterpart, they avoid looking into the eyes of the people with whom they are negotiating. The most appropriate time to do business with the Chinese is between 9:00 am and 11 am (Sparano, 2008).

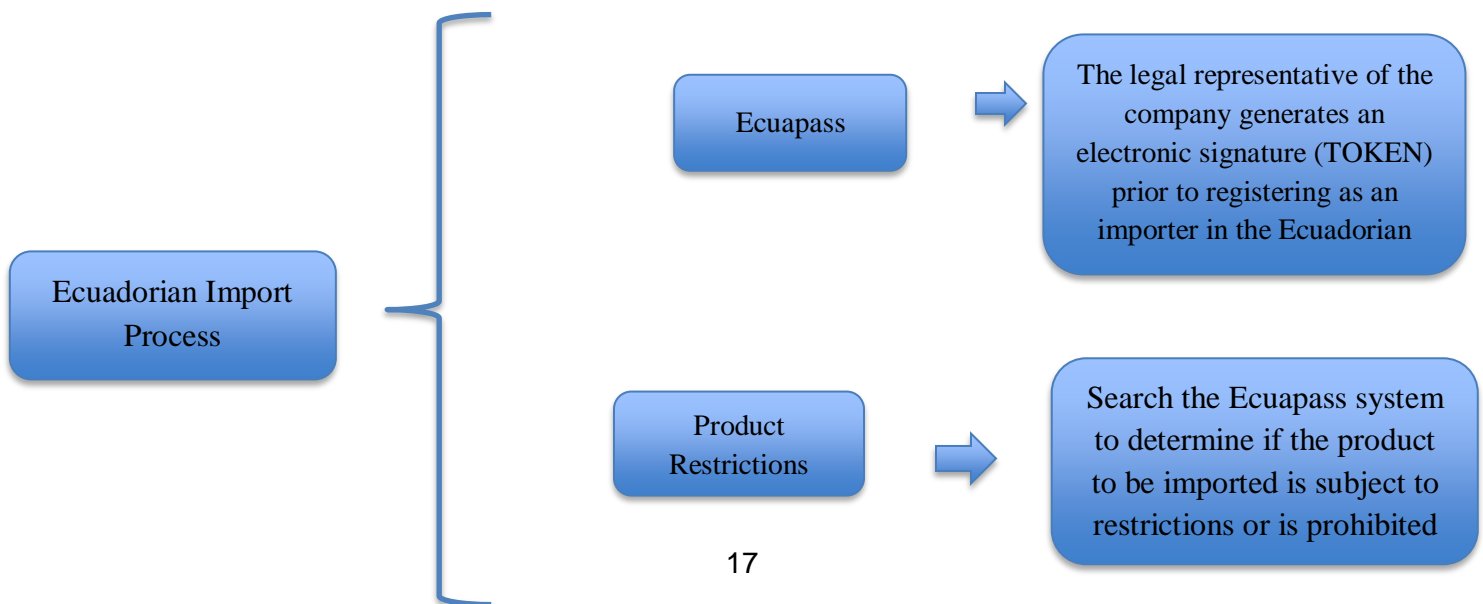
Another aspect that influences negotiation is the food. The Chinese take great care to serve the foreign businessman well with food banquets, signifying generosity, power and wealth. Among one of the general aspects of why Ecuador should do business with China is the availability of disciplined labors, skilled and productive labors, the increasing improvement of infrastructure to support investment, and low taxes and investment incentives (Hernández, 2003).

Documentation and requirements as established by SENA E

In order to carry out the negotiation process with the Chinese supplier, the following requirements must be complied with the following requirements as established by SENA E.

1. Have an RUC as a natural or legal person.
2. Obtain an electronic signature certificate.
3. Register in the ECUAPASS system as an importer.
4. Import license: obtained through Ecuapass, this is the import permit obtained through the National Agency of Regulation, Control and Health (ARCSA), and must be reviewed by the Ministry of Public Health.

Figure 1
Requirements to become an importer



Customs Clearance
Procedures



The company contracts the advice and services of an authorized customs agent, who processes the import customs declaration (DAI).

Source: National Customs Service of Ecuador, (2023).

Documents required to import from China

Among the main documents, a purchase order must be generated with the supplier and the tariff nomenclature must be established, thus the following documents are required:

- Commercial Invoice: this is the one in which all the information related to the sale is recorded by the exporting company and is made available to the tax authorities of the exporting company. the exporting company and is made available for tax purposes to the importing company. The invoice contains the details of the merchandise, the terms of negotiation, the exporter's and importer's data (SENAE, 2024).
- International transport document: it accredits the type of transport that the company acquired for the respective import, through negotiations with the shipping company.
- Bill of Lading or BL: is that which details the specific information of the shipment of goods, information provided by the exporter or importer (SENAE, 2024).
- Packing list: denominated as the list describing the volume and weight of the goods being imported (SENAE, 2024).
- goods being imported (SENAE, 2024).
- Insurance policy against damage or loss of the goods during transportation.
- Customs clearance authorization
- Identification document
- Certificate of Origin

- Import License
 - The Importer and Exporter Code (IEC) is issued by the Government of India and it is mandatory for those exporting and importing goods. It is a 10-digit code that is valid for life.
 - Certificate of Free Sale, duly apostilled.
 - Duly legalized and apostilled authorization of the product holder to apply for sanitary registration.
 - Format of internal and external labels as it will be marketed in Ecuador.
 - Leaflet addressed to the user, written in Spanish, with the specific bibliography.
 - Notarized or apostilled copy of the BMP (good manufacturing practices) certificate.
 - Certificate of efficacy of the finished product
 - Quality specifications of the finished product
 - Batch code interpretation.
 - Description of the analytical methods of the finished product.
 - Description of the manufacturing process of the drug, master formulas, critical points and flow tables.
- Description of the nature of the primary and secondary packaging with physicochemical specifications of the same.
- Format of original internal and external labels as marketed in the country of origin.
- Quality specifications of raw materials.
- Pharmacological information of the finished product with bibliography in Spanish.
 - Product stability studies.
 - Quali-quantitative formula.
 - Product specifications (type of product, shelf life, form of sale, storage, pharmaceutical form, route, drug classification).

- Safety and efficacy documentation of the finished product with chromatograms organized in real time and accelerated speed with blank, placebo and sample.

On the other hand, it should be mentioned that there are some international trade negotiation terms called incoterms, which are used in sales contracts. These terms govern the obligations of the importer and exporter to carry out the trip of the goods by means of the adequate transportation for the import. Some of these inco-terms considered for importing from China are: EXW, FOB, CIF.

EXW (Ex-Works). In the factory. Is when the seller delivers the goods to the buyer at the place arranged by the seller e.g. in the factory or warehouse. (Renza, 2017)

Obligations of the seller:

- Provide the necessary documents and the goods.
- Packing and packaging.

Obligations of the buyer:

- Payment for the goods.
- Customs (documents, authorization, dispositions, etc.).
- Internal shipping (from factory to place of export).
- Export and import costs (warehousing, maneuvers, agent).
- Insurance. Transportation and insurance (place of import to plant).

FOB (Free on Board) - Free on Board (named port of loading) The seller's responsibility ends when the goods are on board the vessel at the agreed port of shipment. The buyer assumes all damages, costs and loss of the goods.

In addition, the FOB term instructs the seller to clear the goods at the agreed port of export.

This Incoterm is only used for inland waterway transport (Renza, 2017).

Obligations of the seller:

- Providing the merchandise and necessary documents.
- Packing and handling.
- Loading (from factory to place of export).
- Customs (documents, requirements, taxes, permits).
- Export costs (handling, warehousing, agents).

Buyer's obligations:

- Payment of the goods.
- Freight and insurance (from place of export to place of import).
- Import costs (port storage, customs warehousing, customs agents, transportation).
- Customs (taxes, document permits).
- Freight (place of origin to port of destination).
- Delay is the time containers spend outside the port.

CIF (Cost, Insurance and Freight) - the seller must deliver the goods to the vessel at the agreed port of shipment. Also, he must pay the costs and freight for the goods to arrive at the agreed destination by taking out insurance. Finally, the seller is responsible for covering the risks for damage or loss of the goods (Renza, 2017).

Obligations of the seller:

Supply the merchandise and necessary documents.

- Packing and handling.
- Loading (from factory to place of export).
- Customs (documents, requirements, taxes, permits).

- Export costs (warehousing and customs agents).
- Freight and insurance

Obligations of the buyer:

- Payment for the goods.
- Import expenses
- Customs (documents, permits, requirements and taxes).
- Transportation and national insurance.
- Delay

At the same time, after having agreed on the negotiation term, the tariff heading between the supplier and the buyer must be established, which allows to verify the type of tariff to be paid, its respective percentage and the prohibitions. Medicines are classified according to chapter, heading and subheading as follows.

Table 4
Tariff Nomenclature of Pharmaceutical Products

	Designación de la mercancía
30.03	Medicines (except those of headings 30.02, 30.05, or 30.06) consisting of products mixed together, prepared for therapeutic or prophylactic uses, not dosed or packaged for retail sale.
3003.10.00.00	Containing penicillins or derivatives with the structure of penicillanic acid, or streptomycin.
3003.20.00.00	Others containing antibiotics.
3003.31.00.00	Containing insulin.
3003.39.00.00	Others
3003.41.00.00	Containing ephedrine or its salts.

3003.42.00.00	Containing pseudoephedrine or its salts.
3003.43.00.00	Containing norephedrine or its salts.
3003.49.00.00	Others
3003.60.00.00	Others containing active ingredients against malaria described in Note 2 of this Chapter.
3003.90	Others
3003.90.10.00	For human use.
3003.90.20.00	For veterinary use.
30.04	Dosed or packaged medicines for retail sale.
3004.10	Containing other antibiotics.
3004.10.20	Containing penicillins or their derivatives.
3004.10.90	Others
3004.20.00	
3004.31.00.00	Containing insulin.
3004.32	Containing corticosteroid hormones, their derivatives, or structural analogues.
3004.32.11.00	For oncological or HIV treatment.
3004.50	Other medicines containing vitamins or other products of heading 29.36.
3004.90.21.00	Anesthetics.

30.05	Gauzes, bandages, and similar items impregnated or coated with pharmaceutical substances.
3005.10.00	Dressings and other items with an adhesive layer.
3005.90	Others
3005.90.10	Absorbent cotton.
3005.90.90	Others
30.06	Pharmaceutical preparations and items
3006.10	Including sterile resorbable threads for surgery or dentistry

Source: Harmonized Commodity Description and Coding System, (2006).

In addition, in the negotiation process, once the tariff item is established, the value of the taxes to be paid for the goods to be imported is known. Among some of them are the following:

- Value Added Tax (VAT): Imported products are required to pay 12%.
- Ad-Valorem: it is the tariff charged in percentages according to the type of merchandise and is applied to the sum of Cost, Insurance and Freight (Servicio de la Aduana del Ecuador, 2023).
FODINFA = 0.5% is applied on the taxable base of the import (Servicio de la Aduana del Ecuador, 2023).
- The Tax on the Exit of Foreign Currency: it is paid on each transfer abroad, in Ecuador a 5% ISD must be paid (Servicio Nacional del Aduana del Ecuador, 2023).
- Most Favored Nation (MFN) tariff rate: this tariff is paid by those countries that are members of the World Trade Organization (WTO), goods that have come from countries that have established bilateral trade agreements and products of Chinese origin (China Briefing, 2013).

- Conventional tariff rate: these are the conventional rates for those goods from countries that have signed regional trade agreements with preferential provisions. Within these countries are India, South Korea, Bangladesh, Laos and some products that are bound to conventional duties under free trade agreements. These products are part of the members of the Association of Southeast Asian Nations such as Pakistan, New Zealand, Peru, Singapore and Costa Rica (China Briefing, 2013).

With respect to logistics, a supply chain has been developed, which is the facilitator of international trade that is related to the totality of the processes of transformation of goods, ranging from the extraction of the raw processes of transformation of goods, from the extraction of raw materials to the final consumer, it should be mentioned that its growth is dependent on the economic, global context, production and consumption patterns (Torres, 2021).

In terms of labeling and logistics, the controlling agency is the China State Administration for Quality Supervision, Inspection and Quarantine. There are rules for labeling and packaging: they must conform to health and safety standards, the material cannot be hazardous or toxic, it must be hazardous or toxic, must be recyclable and biodegradable. In addition, all packaging must have their respective phytosanitary seal per the Prevention and Control Directive (IPPC). (IPPC). The labels of food products must contain their net weight, date of manufacture, expiry date, list of ingredients and address of the Chinese distributor. The languages allowed on packaging and labeling must be in the Chinese language with the marking “made in China” in the authorized units of measurement, the cubic metric system is used (Santander trade markets,2023). Based on logistics, there are several types of cargo depending on the product to be shipped. these can vary in terms of structure, dimension or material such as:

-Bulk cargo: transported in large quantities and without packaging, it is delivered directly to the ships' holds of the vessels, they must be specially conditioned. Bulk cargo can be: solid, liquid or gaseous (Muñoz, 2014).

- Special cargo: refers to the care and handling due to conditions such as: dangerousness, weight, high value, therefore, special treatment is required for its transportation. Special cargo includes vehicles, machinery, fruits, medicines, chemicals, furs that require special handling, gold and liquors (Muñoz, 2014).

- Containerized shipping is used through a metallic or fiberglass box, of the same size, which allows for the mobilizing a greater amount of cargo in the shortest possible time (Muñoz, 2014).

In order to move cargo, it is necessary to use containers, which meet the needs of exporters to store the merchandise that travels through the sea. The container must be chosen according to its weight, size and condition of the goods. The 20-foot container has a maximum cargo capacity of 21,700 kg and 33 cubic meters, the 40-foot container can carry up to 27,200 kilograms and 66 cubic meters (Icontainers,2024). Once the cargo and the container to be used have been established, the importation is carried out by means of these three types of transport.

The Sea is essentially used for heavy goods with transit days of approximately one month. The main Chinese ports that are used to ship goods by this type of transport are goods by this type of transport are: Shanghai, Shenzhen, Guangzhou, Hong Kong and Qingdao.

- Air for light freight with shorter transit days.

- Ground is used when we buy the goods within a nearby territory in a neighboring country that has a certificate of origin, each of them has their advantages and disadvantages described below.

in Table 5:

Table 5
Types of transportation for import

Tipo de transporte	Advantages:	Disadvantages:
Maritime	<ul style="list-style-type: none"> • Large cargo volumes • Low freight cost • In-transit storage 	<ul style="list-style-type: none"> • Slow transport speed • Cargo insecurity • Requires port infrastructure or sea access • Document: Bill of Lading
Air	<ul style="list-style-type: none"> • High transport speed • High cargo security 	<ul style="list-style-type: none"> • High freight cost • Limited cargo volume • No storage capability • Document: Air Waybill
Land	<ul style="list-style-type: none"> • Medium to low freight cost. • High speed for short distances. 	<ul style="list-style-type: none"> • Cargo insecurity • Medium speed for long distances • Document: Waybill.

Source: Torres, (2022).

The transport then arrives with the goods at the port of destination agreed by the importer and SENA is responsible for issuing the type of gauging for the inspection of the goods, and the import customs declaration (DAI). The types of gauging are classified into three types.

types:

- Physical gauging allows to know the physical aspects of the merchandise, e.g. weight, quantity and customs value to verify its origin, according to the information entered in the Customs Declaration, in order to make the correct liquidation of foreign trade taxes. (The Regulation to the

Title of the Customs Facilitation for Trade, Customs Declaration for Customs Facilitation for Trade, Book V of the Organic Code of Production, Trade and Investments, 2011)

-Paper gauging verifies that the information contained in the Customs Declaration contrasts with the information recorded by the National Customs Service of National Customs Service of Ecuador, in order to comply with the correct liquidation of foreign trade taxes (The Regulation to the Title of the Customs Facilitation for Trade, Customs Declaration for the Customs Facilitation for Trade, Book V of the Organic Code of Production, Commerce and Investments, 2011).

- Automatic gauging refers to the mode of clearance through electronic verification of the customs declaration. Imports that require prior control documents (The Regulations to the Title on Customs Facilitation for Trade, Book V of the Organic Code of Trade, Book V of the Organic Code of Production, Commerce and Investments, 2011).

Finally, the importer must make the customs declaration, by means of the following steps according to SENA:

1. Enter the Ecuapass platform.

2. Select “electronic documents”.

3. Once the window is open, continue to complete the general information:

- Declarant's code, regime and customs; form of payment and clearance.

- Importer's data: RUC, city and telephone numbers.

- Values: FOB, freight, taxes, insurance, etc.

- Data of the country of origin, code if it is endorsed or not, consignee and cargo number.

cargo number.

4. In the next tab you will find “VALUE” here you will find the following:

- Invoice information and value.

- Supplier.

- Transaction.

- Intermediary.

5. Subsequently the data is filled in the “ITEM” part value per unit/quantity.

6. Finally, in the “DOCUMENTS” tab, the following are attached: commercial invoice, transport document, certificate of origin, insurance policy.

7. Once the electronic signature is obtained through the ECUAPASS portal, the information is sent to the Ecuadorian customs for validation.

1.3 Trade Agreements

Agreements, pacts or treaties made between two or more countries are called trade agreements, and their main objective is to exchange goods and services, open the doors to bilateral trade, expand collaboration opportunities for sustainable development, considering the interests of both countries, sustainable development, considering the interests of both countries. Another objective is to obtain a total or partial tariff reduction benefit for the entry of merchandise to an external market with which it has negotiated, maintaining rules for asymmetric trade, with protection in sensitive sectors, where greater openness is always expected from the counterpart (Rivera, 2019).

In Ecuador, the industrial sector, with the support of the domestic market, needs to project its internationalization, because without trade agreements, the country would limit the growth and development of industry. In order to compete in the world market, it is necessary to upgrade production in terms of quality, diversification and innovation. In this context, Ecuador is seeking “development agreements” and forces the government to identify countries, applying the ‘win-win’ principle. The win-win strategy seeks cooperation and benefits for all parties at the end of a negotiation, thus, participants must: understand, respect and be aware of each other's interests.

Clearly, it is the most effective and loyal strategy in any negotiation.

1.3.1 Trade agreements between China and Ecuador in the pharmaceutical sector.

In the 21st century, there has been an increase in diplomatic, political, economic and social relations between Ecuador and the People's Republic of China (PRC). These changes were the result of the rise of China as a global power from eighth to sixth in the world economy in 2002. In turn, China's progressive policy in 2006 was aimed at achieving greater autonomy vis-à-vis Western powers, as the country moved from eighth to sixth in terms of the world economy in 2002, as it was an important determinant for the close bilateral relationship between the two countries.

January 2, 1980, China-Ecuador established relations at the formal diplomatic institutional level, after three regimes (one civilian and two military). The first official visit to China by an Ecuadorian president, Osvaldo Hurtado, took place in 1984, initiating a growing dynamic of official exchanges. For his part, in a 1999 visit, the former Ecuadorian president, Mahuad, signed a trade agreement (Reyes & Borja, 2017).

“An interest-free export credit line of US\$6.5 million (El Universo 2003), while, in the new millennium, one of the objectives of the visit of former Ecuadorian President Lucio Gutiérrez to China in August 2003 was to unbalance the unfavorable trade balance (Revenue Statistics in Latin America and the Caribbean 2015, p.18).

In the government administered by, Rafael Correa, between 2007-2016, had frequent approaches with China; in 2016 Xi Jinping, became the first Chinese head of state to arrive in Ecuador, and the establishment of the China-Ecuador Comprehensive Strategic Partnership, which would focus on development and prosperity for the two nations. (Ministry of Foreign Affairs and Human Mobility, 2016). In 2016, the signing of the joint declaration between Ecuador and China on the establishment of the comprehensive strategic partnership on p. 12, (2016) expresses:

“Both sides will fully explore the potential of the complementarity of the bilateral economy and trade, boosting their sustained, stable and balanced growth. Investment will be encouraged, bilateral trade will be promoted and facilities will be provided for from one party to the other” (Joint Declaration between the Republic of Ecuador and the People's Republic of China on the Establishment of the comprehensive strategic partnership, 2016). “

The Free Trade Agreement with China aims for 99.6% of Ecuadorian exports and imports to enter the market with a 0 % tariff on a total of 4,677 products. However, the benefit will be immediate for some items and for others it will be gradual. For industry, the products with a 0 % tariff are fertilizers, agrochemicals, medical supplies, medicines and vaccines (Telégrafo, 2023).

The Ecuador-China trade agreement is the first Ecuador has signed with an Asian country. It was signed virtually and simultaneously on May 10, 2023 in Quito and on May 11 of the same year in Beijing (COMEX, 2023) and on May 11 of the same year in Beijing (COMEX, 2023).

The Agreement was reviewed and approved by the National Assembly and the Constitutional Court on February 7, 2024. Once approved, it is sent to the Executive to be registered in the international agreements system of the Ministry of Foreign Affairs. For its part, the Ecuadorian Foreign Ministry will make the official notification to China. Likewise, the government of China will comply with a similar internal process. The treaty will be in force in 90 days. The Free Trade Agreement between China and Ecuador entered into force on the 1st of May to promote the diversification and expansion of trade between the two countries and promote the sustainable development of the Ecuadorian economy, thanks to the agreement, Ecuador has entered a new phase of development, for imports and exports, as one of the pillars of growth for both countries, particularly non-oil exports. Also, this agreement allows us to equalize levels of competition with neighboring countries (Chile, Peru and Central America) that already have agreements with

Ecuador. Central America) that already have agreements with China (Ministry of Production, Foreign Trade, Investments and Fisheries, 2024).

It is clear that the income granted by the Ecuadorian State for technological advances and research in the pharmaceutical sector is low, in contrast to Europe and the United States, which have a large number of pharmaceutical patents. The United States, which has a large number of pharmaceutical patents. For this reason, China will be one of the leading countries in this field in the next 20 years, which demonstrates the great capacity for innovation and competitiveness that these countries have and the potential for growth in the pharmaceutical manufacturing sector worldwide (Vite-Vera & Párraga-Fernández, 2019).

1.4 Laws of Ecuador applied to the area of health when it is considered a health emergency.

Nowadays, health is a universal right that obliges States to have a complete and efficient health system, so that their citizens can enjoy their right to health. According to the World Health Organization, (2001, p.4), the right to health comprises of:

- The right to a system of health protection that provides everyone with an equal opportunity for the enjoyment of the highest attainable standard of health.
- The right to prevention, treatment and control of diseases.
- Access to essential medicines.
- Maternal, child and reproductive health.
- Equal and timely access to basic health services.
- Access to education and information on health-related issues.
- Participation of the population in the decision-making process on health-related issues at the community and national levels. It should be mentioned that all health goods and services should be available to its citizens and remain in a state of good quality. Each State should have

establishments of health goods and services such as: public hospitals, health centers, medical supplies, etc. They must be physically accessible for people with disabilities, elderly, children and minors without any discrimination from the economic point of view.

Accessibility is understood as the right to request and receive health-related information. As established in the Organic Law of Health (2015), the Ministry of Public Health (MPH) is responsible for: determining health alert zones, identifying population groups, identifying health alert zones (MSP) is responsible for: determining health alert zones, identifying population groups at serious risk, and requesting the declaration of a state of health emergency, requesting the declaration of a state of health emergency, as a consequence of epidemics, disasters or others that put collective health at serious risk.

In addition, the Ecuadorian State guarantees the right to health of the population, in such a way, has the following functions:

A. Adopt the necessary measures to guarantee in the event of a health emergency, access to and availability of the necessary supplies and medicines to face it, making use of the mechanisms provided for in international conventions and treaties and the legislation in force. (ley orgánica de salud, 2015).

B. According to Ley Orgánica de Salud (2015), in the following articles we mention that: The national sanitary authority, through the competent entity, may authorize the importation of drugs, biological products, medical devices, medical, biochemical and diagnostic reagents that have not obtained the corresponding sanitary registration, in cases of sanitary emergency. This is for those persons who require specialized treatments not available in the country, suffering from catastrophic diseases, rare or orphan diseases and for human clinical research purposes. Specifically, in Art. 259: referring to sanitary emergencies. It is any situation of health risk caused

by natural disasters or by the actions of people, climatic phenomena, absence or precariousness of basic sanitation conditions that favor the increase of communicability would require the special intervention of the mobilization of human, financial or other resources, aimed at reducing the risk or mitigating the impact on the health of the most vulnerable populations. The sanitary emergency must be declared by the President of the Republic, as required by the Political Constitution.” (ley orgánica de salud, 2015, p. 41). Likewise, the Constitution of Ecuador mentions that the Ecuadorian State must prioritize access to good quality, safe and efficient medicines, all while promoting their national production and the use of generic drugs that are essential for the epidemiological needs of the population.

In chapter one, we concluded that imports in the Ecuadorian pharmaceutical sector have a high demand in the market during the years 2019-2022 due to the country's health system of the country, which is constantly growing together with the companies dedicated to importing pharmaceuticals. After completing the research, it is concluded that in order to have a successful importation it is necessary to comply with the documents requested by the SENA of Ecuador to avoid long and complicated import procedures during importation. Finally, it was investigated that currently the negotiations between Ecuador and China are growing rapidly due to the signing of the Free Trade Agreement, which allows: reduction of tariffs, the opening of trade of various products and promotes the restructuring of new laws to facilitate trade.

CHAPTER 2

2. Analysis of pharmaceutical importations by Dismedic during the period 2019-2022

Dismedic is a family enterprise, which was founded in the year 2008 with the objective of offering quality and efficient products for healthcare. Besides, as a company, they aim for the rationalization of the pharmaceutical expenditure to an accessible cost for Ecuador.

The business, for its functioning, did the following process:

1. Creation of the enterprise and obtention of the operating permit.
2. Market analysis
3. Search and selection of providers
4. Contact with providers
5. Reception of documents

Dismedic obtained the operating permit by Executive Decree 1290, competence attributed to the National Agency of Sanitary Regulation, Control, and Vigilance (ARCSA). The Operating Permit is a document given to the establishments subject to sanitary control and vigilance that comply with all the requirements for its functioning, established by the current normative, with the exception of the health care services establishments (ARCSA, 2023). Therefore, this agency guarantees the safety, quality and effectiveness of products and services. Dismedic is subject to sanitary vigilance and control and it is fundamental that it counts with the technical responsibility of a Pharmaceutical Biochemist or Pharmaceutical Chemist registered in ARCSA and in the Health Ministry.

Dismedic, according to ARCSA, is: house of pharmaceutical representation for being an authorized pharmaceutical establishment for the wholesale and importation of medicine in general and it has to comply with the current good practices of storage, distribution and transportation

determined by the national sanitary authority, which are obligatory and special norms for pharmaceutical products with the goal of guaranteeing their safekeeping and properties (ARCSA, 2023).

During its first years, Dismedic worked only as a medicine distributor. It made purchases to transnational pharmaceutical laboratories, specifically from Colombian and Chilean origin, which counted with their own distributor in Ecuador. Nonetheless, at the beginning of the pandemic, in January 2020, the enterprise had the need to start with the initiative of the importation process and make decisions referring to this process; the enterprise starting the importation in 2022. In order for Dismedic to start the importation process, it made a market analysis with the most requested products in the health area. Dismedic inquired many foreign providers and chose the provided according to a thorough investigation of the factory, considering detail such as:

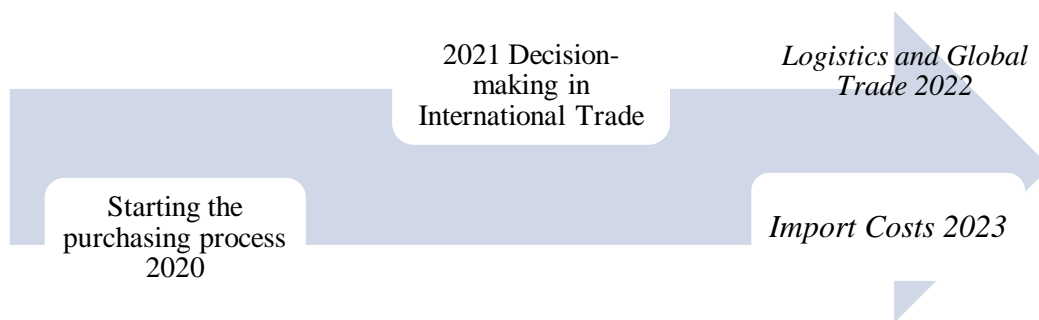
- Time since the factory was established, number of employees, location.
- Prices.
- Experience with other countries, preferably Latin Americans.
- Operation permit of the foreign enterprise.
- Certification of Good Manufacturing Practices (GMP), norms that guarantee that the products would be manufactured with quality and in good conditions.

The communication process with the providers was directly by mail and/or video conference. Dismedic had a formal presentation with the chosen provider, in which it developed an introduction of the enterprise and of the possible medicine to be imported. Once the negotiation with the chosen provider from China was concluded, they continued with the importation process as pointed by the National Customs Service of Ecuador (SENAE).

Continuing with the investigation as indicated by the figure 2, Dismedic started its economic activity in the year 2019 with the process of national purchases, being only a local distributor. When the pandemic started in the year 2020, the enterprise had the need of going international because of the increase of drug sales that took place in Ecuador. For this reason, Dismedic started the search of international providers that comply with all the necessary documentation to become part of its business. Once the search process finished, in the year 2021, the enterprise analyzed all the expenses concerning to the importation process, among them being: the value of the merchandise, port expenses, merchandise storage, foreign commerce taxes, freight nationalization and national transport. Finally, Dismedic decided to import from China in the year 2022 considering the necessary capital to start with the importation process.

Figure 2

Timeline of Dismedic’s purchase process



Source: Dismedic, (2023)

Accounts that contributed to Dismedic’s foreign commerce

The accounts considered for the analysis correspond to the costs and expenses of the company. In these accounts, there is a subaccount called “cost of sale,” in which the value of the net purchases and the imported goods by the passive subject are considered. Besides, there is another account called “other expenses,” formed by the value of logistic transportation, insurance and reinsurance, taxes and customs contributions corresponding to the indicators of foreign

commerce, which define the internationalization level of the company. All this information is collected in the Superintendencia of Companies and the length of time considered for the analysis goes between the years 2019 and 2022. As shown in the following table number 6.

Table 6

Accounts that contributed to Dismedic’s foreign commerce

Years	Net Local and International Purchases	Increase in Purchases	Logistics Transportation	Insurance and Reinsurance of Goods	Customs Taxes and Duties
2018 base year	\$1.231.120,00	-	-	-	-
2019	\$1.676.518,14	36,17%	\$8.515,64	\$4.425,25	\$4.810,26
2020	\$3.267.841,43	94,91%	\$14.416,01	\$3.569,31	\$1.268,46
2021	\$3.570.230,55	9,25%	\$15.526,08	\$15.526,08	\$2.643,9
2022	\$8.971.893,33	151,29%	\$ 22.900,38	\$8.429,17	\$65.995,41

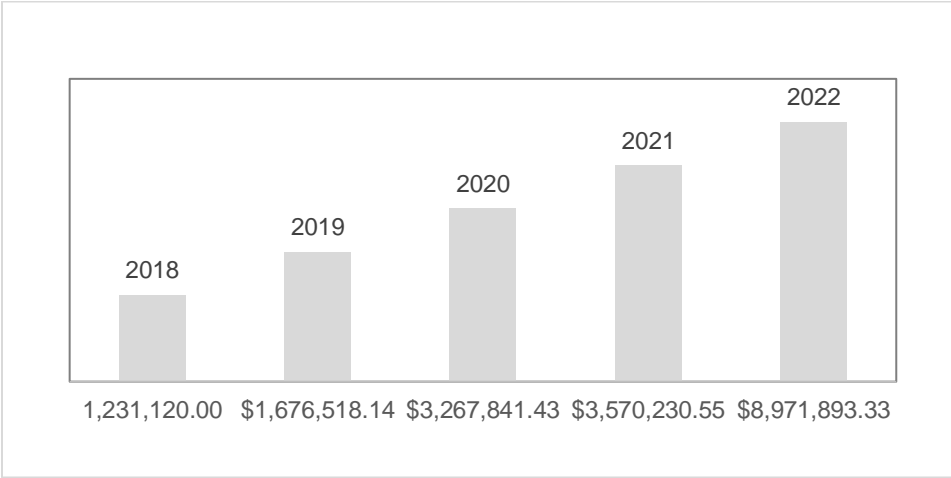
Source: Superintendencia de Compañías, (2023)

To start the analysis, the value of local purchases from 2019 to 2021 is interpreted. On the other hand, the increase of international purchases starting in the year 2022 because of the importation process is observed. Furthermore, another expense related to foreign commerce is the logistic transportation. During the year 2019 until 2021, the logistic expenses were solely from the transnational pharmaceutical laboratories located in Ecuador to Dismedic’s warehouses. Nonetheless, in 2022, the logistic is related to the expenses of incoterm FOB (Free on board), which comprises the seller’s obligations of taking the merchandise to the shipping port and loading

it in the vessel. Subsequently, the logistic expenses continue from the shipping port to the unloading port and from the unloading port to the importer's warehouses.

Additionally, there are merchandise insurances and reinsurances, which are in charge of guaranteeing that the product is safe if it were to suffer any accident or manipulation inside the international ports. Among these expenses, the fees charged by the insurer for the value of the imported merchandise from the shipping port to the unloading port are contemplated. Lastly, to finish with the foreign commerce expenses analysis on table 6, the customs taxes and contributions are presented. From the year 2019 to 2021, the expenses were the value-added tax and the taxes to the income made by Dismedic. However, by 2022, there were customs taxes for its first importation that were part of the importation permit liquidation. Some of them are: customs tariff Ad-Valorem and service fee Fodinfra.

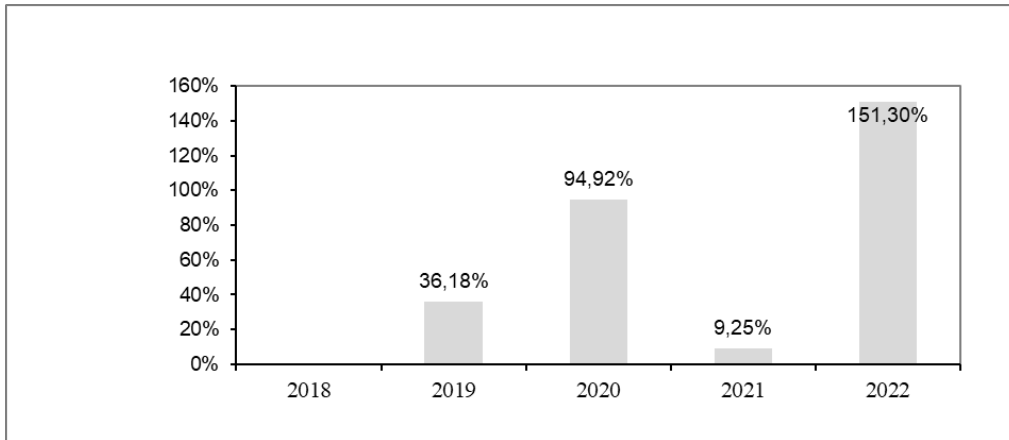
Table 3
Local (2019-2021) and international (2022) purchases



Source: Superintendencia de compañías, (2023)

In figure 3, there are exhibited the purchase value of the company during the period 2019-2021. In the year 2019, the purchase values were of \$1,676,518.14, In 2020, the purchases were of \$3,267,841.43, and for 2021, the purchase value went up to \$3,570,230.55. Finally, in 2022, the company showed an increase due to the importation process with a value of \$8,971,893.30.

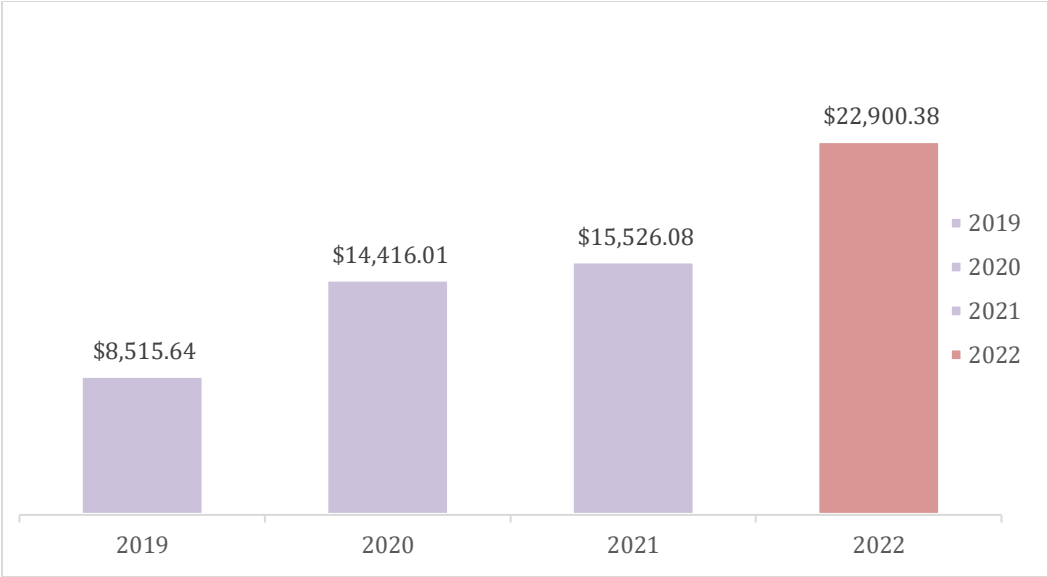
Figure 4
Increase of national and international purchases



Source: Superintendencia de compañías, (2023)

The figure 4 shows that the company had an increase in purchases of 36.18% in 2019. For the following year 2020, it incremented its purchases by 94.92%. In the year 2021, there is a brief purchase increase of 9.25%. However, it should not be left aside the year 2022, being this the most significant year due to the beginning of international purchases. Such a year represents a high, important increase of 151.30%, putting aside the national purchases.

Figure 5
National and international logistical transportation

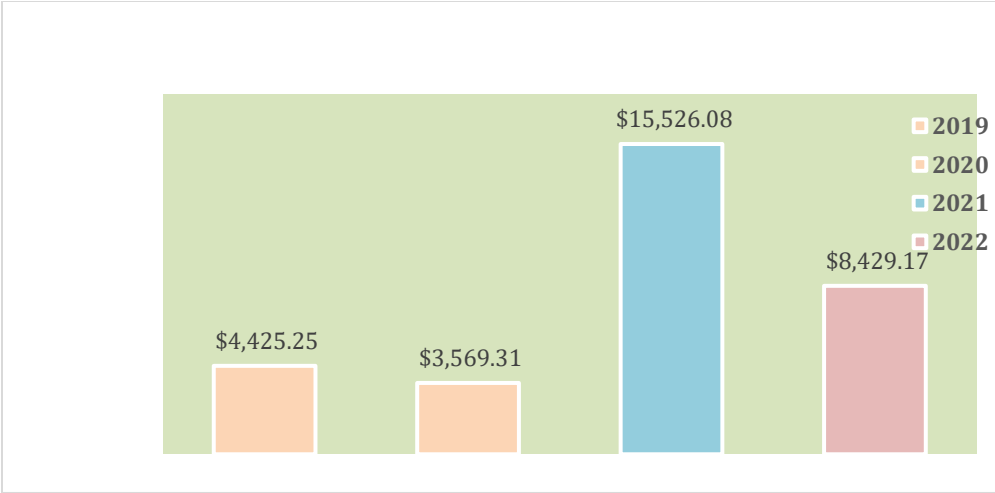


Source: Superintendencia de compañías, (2023)

Figure 5 shows the expenses since 2019 to 2021 from national transportation and from international transportation since the year 2022. The cost of expenses regarding national transportation in the year 2019 was of \$8,515.64, for the year 2020 the cost increased to \$14,416.01. Besides, for 2021, the cost if transportation increased to \$15,526.08. During the years 2019-2021, there was not a representative variation of the cost of logistics in comparison to the year 2022, where there was a higher cost of \$22,900.38 due to the fact that the logistics expenses were on an international level.

Figure 6

Insurances and reinsurances of the merchandise

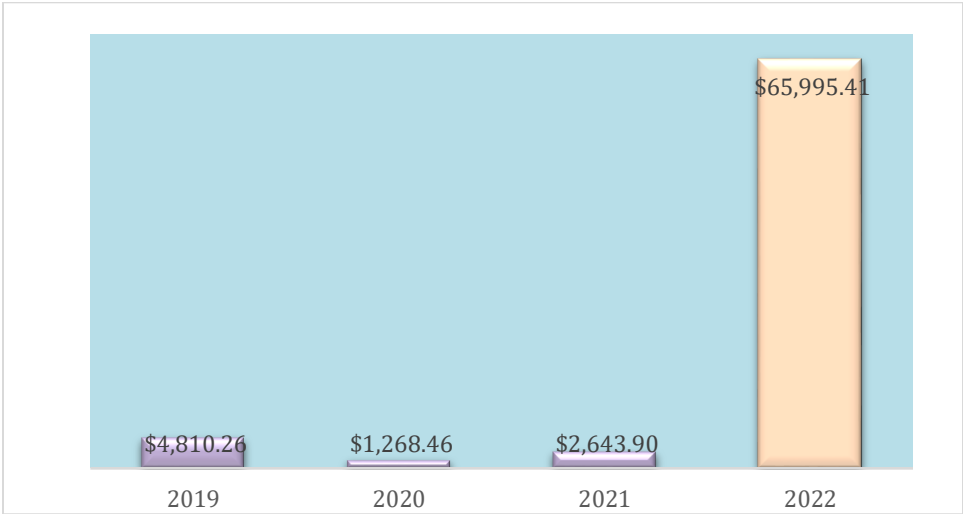


Source: Superintendencia de compañías, (2023)

As shown by graph 6, in the year 2019 the insurance cost was of \$4,425.25, in 2020 it was of \$3,569.31, for the year 2021 the costs increased representatively because of the pandemic, hence why the insurance companies charged more for keeping the merchandise safe. Another reason was the delay of logistical processes in different shipping ports. Nonetheless, in the year 2022, the expenses decreased to \$8,429.17 due to the facilitation and acceleration of the logistical processes.

Figure 7

Local and international taxes



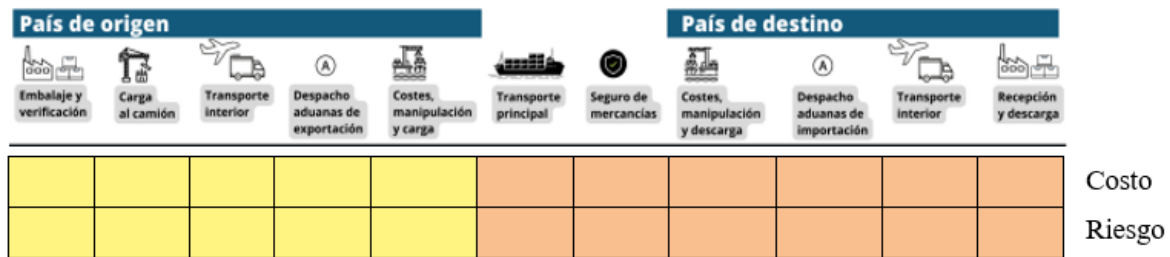
Source: Superintendencia de compañías, (2023)

Figure 7 determines the local taxes from 2019 to 2021 and customs duty in 2022. During the years 2019-2021, local taxes did not present a high cost since they represent local taxes by the Internal Revenue Service; among them are VAT tax and income tax. Nevertheless, for year 2022, the taxes were relatively high due to the importation process, given the higher foreign trade tax payments imposed by Ecuadorian Customs.

Importation process by Dismedic

For this importation, the agreed negotiation terms for the contract were FOB (Free on board), or in Spanish *Franco a bordo*, which means that the seller covers the expenses and risks until the merchandise aboard is delivered, that is to say, load the merchandise by crane or other port equipment to the boarding port. After completing all these steps: loading operation, stowage, and lashing, the costs and risks could be considered delivered by the seller to the buyer.

Figure 8
Costs and risks distribution by the importer.



Incoterm: FOB (Free on board)

Vendedor
Comprador

Source: Oftex International Sales, (2020)

The importation process by Dismedic from China began in August 2022 with the purchase order of 10,000 boxes of medicine of products (Y) (X). The terms of negotiations for the purchase were the incoterm FOB (Free on board), which is included in the total value of the FOB. Therefore, the provider has the responsibility of carrying the 8,000 units of product X that multiplied by the boxes gives a total FOB of \$19,200.00. Likewise, the seller has to carry 2,000 units of product Y that multiplied by the boxes gives a FOB value of \$54,000.00

Table 7
Purchase order

DESCRIPTION	QUANTITIES	FOB
Product X	8.000 units	\$19.200,00
Product Y	2.000 units	\$54.000,00
TOTAL	10.000 units	\$73.200,00

Source: Dismedic, (2022)

Later, Dismedic hired the shipping company services to carry the merchandise from the shipping port to the unloading port through maritime transport. The value of the costs of maritime freight and administrative expenses is shown in table 8.

Table 8

Shipping company expenses

MARITIME FREIGHT	
DATE	29/8/2022
COSTUMER	DISMEDIC
PORT OF ORIGIN	QINGDAO
PORT OF DISCHARGE	GUAYAQUIL
MARITIME FREIGHT	\$1.849,00
TOTAL	\$1.849,00

Source: Dismedic, (2022)

Continuing with the importation process, once the merchandise arrives at the unloading port, a service for unloading the merchandise is hired. The expenses for hiring these services are:

- Deconsolidation: It is which allows to ungroup several shipments with different packaging or they could be the same, but belonging to different companies, with the goal of economizing transportation expenses.
- Port expenses: It shows the value that the port charges the vessel for using its premises.
- Collection fee: It is the surcharge of the freight payment in the port of destination.
- Customs transmission: Also known as the unique customs declaration (DAI), document which shows the weights, port of festination of the shipment, which has to be presented in a period no longer than fifteen days since the transport arrival.
- Revalidation: it is the notice that the shipping company issues for the completion of payments related to the services given.

Table 9**Expenses for the unloading at the port of destination**

QUANTITIE	DESCRIPTION	UNIT PRICE	TOTAL, PRICE
1	DESCONSOLIDATION	\$250	\$250
1	PORT CHARGES	\$100	\$100
0,05	COLLECTION FEE	\$1.849	\$92,5
1	CUSTOMS TRANSMISSION	\$50,0	\$50,0
	SINGLE CUSTOMS DECLARATION		
1	REVALIDATION	\$50,0	\$50,0
SUBTOTAL 12%			\$542,45
SUBTOTAL EXCLUDING TAXES			\$ 542,45
VAT 12%			\$65,09
TOTAL, VALUE			\$ 607,54

Source: Dismedic, (2022)

When the merchandise is in the unloading port or destination, the container should be stored.

Among the port storing expenses are:

- The minimal fee charged for the time that the container is stored.
- Handing for loose cargo capacity. This service consists of the manipulation of the general cargo ready for gauging. 101 bulks onwards gauging crew refers to the service of hiring the necessary staff and equipment for the physical inspection of the cargo of 101 bulks and onwards.
- Tallying service is the one which allows to check that the information of the cargo manifestoes are correct. It is verified by checking physically the cargo and checking with the data written in the documents.

Table 10**Expenses for merchandise storage**

PORT WAREHOUSING			
DESCRIPTION	QUANTITIES	UNIT PRICE	TOTAL PRICE
MINIMUM STORAGE FEE	1	\$20,39	\$20,39
HANDLING FOR LOOSE CARGO INSPECTION	8,6	\$1,92\$	\$16,51
CREW FOR INSPECTION OF 101 PACKAGES AND BOVE	1	\$19,79	\$19,79
TALLY SERVICE	8,6	\$15,29	\$131,49
LOOSE CARGO DISPATCH	8,6	\$3,99	\$34,31
SUBTOTAL 12%			\$222,49
SUBTOTAL EXCLUDING TAXES			\$222,49
VAT 12%			\$26,70
TOTAL VALUE			\$249,19

Source: Dismedic, (2022)

Finishing with the logistics process of the importation, an authorized transportation is hired to move the merchandise to the importer's warehouses. The type of heavy transportation or trailer should comply with the requirements for the access to the port premises. It needs to obtain the permit through the Undersecretariat of Port Transportation and Sea and Fluvial Transportation, which enables the carrier as Vessel Port Operator.

Table 11**Transportation Guayaquil – Cuenca**

AUTHORIZED TRANSPORT			
QUANTITY	DESCRIPTION	UNIT PRECI	TOTAL, PRICE
1	TRANSPORT FROM	\$360	\$360
	GUAYAQUIL UNTIL CUENCA		
		SUBTOTAL	\$360
DISCOUNT			
SUBTOTAL			\$360
VAT 12%			
TOTAL VALUE			\$360

Source: Dismedic, 2022

To carry out this process, the services of a customs agent were hired, who offers advice in every customs procedure related to the satisfactory merchandise importation and delivery. The expenses of the customs agent are related to the nationalization of the cargo.

Table 12**Expenses of customs agent**

COSTUMS AGENT			
DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
"REGIME 10 FOR NATIONALIZATION CONSUMPTION"	1	\$255	\$255
	SUBTOTAL 12%		\$255
	SUBTOTAL EXCLUDING TAXES		\$255
VAT 12%			\$30,60
TOTAL, VALUE			\$285,60

Source: Dismedic,2022

To conclude, with the importation process, the SENAE emits the customs liquidation, which details the expenses for customs duty, among which are: Ad-Valorem tariff, a percentage established by the Ecuador customs, depending of the merchandise to import. The medicine has an Ad-Valorem percentage of 5%. Fodinfra, tax related to children help projects, was of 0.5% of the insurance and freight cost. The value-added tax (VAT) corresponds to the 12% of the taxable income plus Ad-Valorem, plus Fodinfra and plus ICE.

Table 13
Customs liquidation expenses

LIQUIDATION COSTUMS			
	CUSTOMS LIQUIDATION	RELEASED VALUE	AMOUNT TO PAY
AD- VALOREM TAX= 5%.			
FOB+INSURANCE= *(5%)	\$3.672,48		\$3.672,48
.			
CIF = COST+INSURANCE + FREIGHT	\$75.298,60		
TAXES			
FODINFRA= FOR 0.5% OF CIF	\$376.490		\$376.490
VAT (VALUE ADDED TAX): 12% ON TAX BASE + AD VALOREM + FODINFRA + EXCISE TAX	\$9.521,71	\$9.521,71	
EXCISE TAX	0	0	0
TOTAL	\$13.570,68	\$9.521,71	AD-VALOREM + FODINFRA =
			\$4.048,97

Source: Dismedic, 2022

To finish the payment of the importation expenses, the importation permit is detailed, in which there is a summary of every expense involved in importation. Among them are: the insurance applied to the merchandise, which offers support for any issue the cargo may present, the value depends of the total or partial coverage hired by the byer. CIF (Insurance and Freight), which in Spanish means *Seguros y Fletes*, corresponds to the value of the sum of FOB plus the insurance and freight expenses. The total value of the importation was of \$80,727.51.

Table 14
Importation permit liquidation expenses

IMPORT COSTS	TOTAL, VALUES
SUPPLIER	X-CHINA
DATE	January-22
FOB	\$73.200,00
MARITIME FREIGHT AND ADMINISTRATIVE EXPENSES	\$1.849,00
APPLIED INSURANCE	\$249,6
CIF = FOB + INSURANCE AND FREIGHT	\$75.298,60
AD VALOREM TARIFF COSTS	\$3.672,48
FODINFA COSTS	\$376,49
CUSTOMS AGENT FEES	\$255
RENTAL TRANSPORT, FROM PORT OF DESTINATION TO IMPORTER'S WAREHOUSE	\$360

PORT WAREHOUSING	\$222,49
DISCHARGE FEES AT THE PORT OF DESTINATION	\$542,45
TOTAL, IMPORT COST	\$80.727,51

Source: Dismedic, (2022)

Concluding with chapter 2, the increase the company presented through importation occurred because of Dismedic making the decision of importing basing on the benefits and its clients' needs. Above all, Dismedic verified each of its importation processes, given that it started with the importation at the appropriate time and it managed to achieve a high number of sales.

Chapter 3

3. Analyze and determine import strategies as a business alternative in the pharmaceutical industry for Dismedic in relation to India-Ecuador.

3.1 Indian Pharmaceutical Industry

Currently, the pharmaceutical industry in India is valued at \$50 billion, positioning itself as the leading exporter of drugs. More than 50% are supplied to Africa, 40% of generic drugs to the United States, and 25% of all medicines to the United Kingdom. Additionally, India is the leading supplier of vaccines, particularly against measles, with 70% of vaccines. In this way, it ranks third globally in drug production (Invest India, 2023).

The increase in Indian drug production is also achieved through legislative reforms, the growth of contract manufacturing and outsourcing (CRAMS-Outsourcing), the emergence of joint ventures, and efforts to comply with the obligations of the Trade-Related Aspects of Intellectual Property Rights agreement of the World Trade Organization (Sosa, 2020).

The growth of the pharmaceutical market is driven by several reasons, one of which is the support from governmental organizations and programs promoted by the government. Another reason that kept the pharmaceutical industry growing was the outbreak of COVID-19, as it created a significant growth opportunity for various Indian pharmaceutical organizations, which managed to produce medicines to meet the increasing demand for vaccines. Consequently, it is estimated that India will record a compound annual growth rate of 10.7% during the years 2024-2029 (Mordor Intelligence, 2024).

India stands out as the third-largest producer of pharmaceuticals, accounting for 20% of generic medicines globally. This growth has been developing since 2005 following the signing of

the agreement with the World Trade Organization on the Trade-Related Aspects of Intellectual Property Rights, which ended the copying of foreign pharmaceutical medicines. Consequently, this agreement allows India to prevent any other country from manufacturing its drugs under their brand, making India the owner of medicine patents, thereby becoming a global pharmacy for generic drugs (Badwy, 2023).

India is characterized as the third-largest economic power in the world by purchasing power parity. Its economy is highly structured and advanced, with significant contributions to its gross domestic product due to long-term growth prospects, low dependency rates, high savings and investment rates, strong trade relations, and a young population that provides a skilled labor force. The annual GDP growth rate is 6.3%, and India has moved from the tenth to the fifth position thanks to large volumes of drug exports, driven by efforts in innovation and investment in the pharmaceutical sector. India is undergoing a radical transformation in its medicine industry, with several Indian companies being at the forefront of advanced medical fields such as vaccines, antibodies, and DNA and RNA-based therapies (International Fund for Agricultural Development, 2024).

According to Trade Statistics for International Business Development (Trade Map, 2024), the top six destinations for all Indian product exports are the United States, the United Arab Emirates, the Netherlands, China, Bangladesh, and Singapore, as shown in the following table.

Table 15**List of India's Top Exporting Countries 2019 – 2022**

Importers	Imported Value in 2019	Imported Value in 2020	Imported Value in 2021	Imported Value in 2022
World	323.250.726	275.488.745	394.813.673	452.684.214
Estados Unidos	54.288.194	49.320.596	71.510.497	80.230.193
United Arab Emirates	29.539.358	17.953.335	25.446.693	31.322.728
Netherlands	8.906.975	6.261.190	10.284.461	18.500.438
China	17.278.833	19.008.267	23.036.597	15.084.401
Bangladesh	8.242.923	7.912.821	14.092.748	13.833.759
Singapur	10.738.689	8.295.020	10.650.087	11.830.795

Note: data is in thousands of U.S. dollars

Source: Trade Map, (2024)

According to the source of Trade Statistics for International Business Development, over the past four years, the main products exported by India were as follows: mineral fuels, precious pearls, nuclear reactors, machinery and electrical equipment, chemicals, vehicles, and pharmaceutical products, with an export value of \$16.264 million in 2019. In the year 2020-2021, it experienced a growth of 6%, and in 2021-2022, its value increased by 2%.

Table 16**Main Products Exported by India**

Products Description	Exported Value in 2019	Exported Value in 2020	Exported Value in 2021	Exported Value in 2019
All products	323.250.276	275.488.75	394.813.673	452.684.214
Mineral fuels, mineral oils, and products of their distillation.	44.532.702	27.634.363	54.400.639	98.472.280
Fine pearls (natural or cultured), precious stones or semi-precious stones, precious metals.	36.734.423	24.455.527	38.155.138	39.274.606
Nuclear reactors, boilers, machines, apparatus, and mechanical devices, parts of these machines.	21.263.715	17.970.883	24.165.782	27.502.754
Electrical machines, apparatus, and equipment, and their parts, recording or reproducing apparatus.	14.940.710	13.464.976	18.836.214	26.573.154
Organic chemicals.	18.247.370	17.426.850	21.184.150	21.876.532
Motor vehicles, tractors, bicycles, and other land vehicles, their parts and accessories.	17.412.553	12.996.848	18.897.162	21.256.873
Pharmaceutical products.	16.264.00	18.426.748.	19.460.516	19.752.792

Note: data is in thousands of U.S. dollars

Source: Trade Map, (2024)

The United States is the leading importer of pharmaceutical products, followed by South Africa, the United Kingdom, Nigeria, France, Belgium, and the Netherlands. From 2019 to 2022, India exported pharmaceuticals worth a total of \$26,668,765,000 to the U.S., \$1,280,935,000 to Belgium, \$2,421,121,000 to South Africa, \$2,194,172,000 to the United Kingdom, \$1,199,798,000 to the Netherlands, \$1,817,983,000 to Nigeria, and finally, \$1,321,813,000 to France.

Table 17

Top Export Destinations for Indian Pharmaceutical Products

Importers	Exported Value in 2019	Exported Value in 2020	Exported Value in 2021	Exported Value in 2022
World	16.264.000	18.426.748	19.460.516	19.752.792
Estados Unidos	6.354.114	6.991.639	6.617.246	6.705.766
Belgium	183.186	261.776	249.59	586.383
South Africa	515.756	693.779	641.881	569.705
United Kingdom	457.637	563.606.	638.57	534.359
Netherlands	199.798	241.775	279.024	479.201
Nigeria	389.237	410.156	564.918	453.672
France	221.427	277.393	390.349	432.644

Note: data is in thousands of U.S. dollars

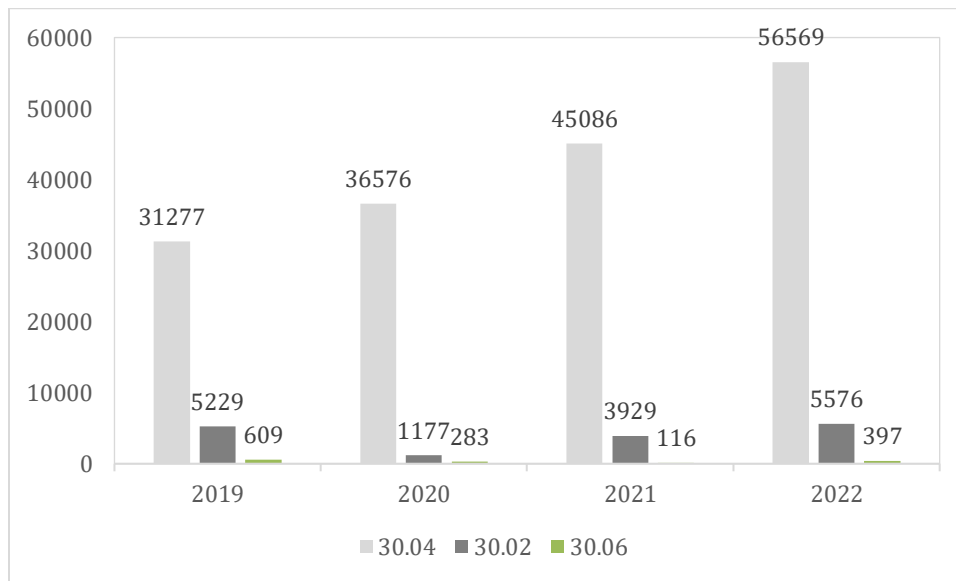
Source: Trade Map, (2024)

Pharmaceutical Imports Ecuador India 2019 – 2022

The products with the highest import percentage from India are those classified under **30.04**: medicines consisting of mixed or unmixed products, prepared for therapeutic or prophylactic uses, dosed in measured doses; similarly, the classification **30.02**: human blood, animal blood prepared for therapeutic, prophylactic, or diagnostic uses; antisera and other blood fractions and immunological products, including those modified or obtained through biotechnology processes; vaccines, toxins, and microorganism cultures; and **30.06**: pharmaceutical preparations and products from subheadings **3006.10.10** to **3006.93.00**. Graph 10 shows the growth of the **30.04** category over the described period.

Figure 9

Bilateral Trade between Ecuador and India (2019-2022)



Note: data is in thousands of U.S. dollars

Source: Trade Map, (2024)

3.2 Negotiation, Logistics, and Cost Analysis Processes between India – Dismedic.

For this analysis, a quotation was obtained from the supplier located in New Delhi, in the central-northern part of India. The same products purchased by Dismedic from China were quoted. The documents required for the import are the same as those described in the first chapter, therefore, the supplier confirms the availability of all necessary documents.

- **Good Manufacturing Practices:** Refers to the basic hygiene principles for the production or preparation of products intended for human use, ensuring that manufacturing occurs under sanitary conditions (Rueda, 2018).
- **Certificate of Analysis (COA):** This is the result of a scientific test that contains various chemical substances used in the production of food or medicines, ensuring compliance with quality standards. The COA should include the following elements: product name, manufacturer, batch number, pharmaceutical ingredient, expiration date, publication, and date of receipt of tests if applicable (Safety Culture, 2024).
- **Pharmaceutical Product Certificate:** A document that certifies the quality of the pharmaceutical product, authorizing the sale and distribution of the drugs (Ministry of Health, 2022).
- **Safety Data Sheet:** Describes the hazards of the product or chemical material, and contains information on its use, handling, personal protection against spills, explosions, and fires (Health Safety Environment, 2023).

- **Commercial Invoice:** A document that details the quantities of medicines purchased, with unit and total prices.
- **Certificate of Origin:** Certifies the origin of the exported goods (Weisson, 2016).

To initiate the negotiation, a proforma invoice was requested from the supplier in India for the same medicines imported by Dismedic to allow for a comparison with China. The agreed term of negotiation is FOB, the same as in Chapter Two, with the same obligations for the seller and buyer. The payment terms established by the supplier were a 40% advance payment and 60% upon delivery. The delivery time will be between 25 to 30 days, which may be reduced once the purchase order is confirmed.

Table 18
Quotation for Medicines to Import''

DESCRIPTION	QUANTITIES	FOB
Producto X	8.000 units	\$29.600,00
Producto Y	2.000 units	\$60.000,00
TOTAL	10.000 units	\$89.600,00

Source: Dismedic, (2022)

To carry out the import from India, the services of a shipping company will be hired. The company will provide services to transport the goods from the port of departure, New Delhi, India, to the destination port, Guayaquil, Ecuador. Details of the expenses for sea freight and administrative costs are provided. The value of the sea freight was calculated based on the type of cargo to be quoted, the net weight, and the number of boxes.

Table 19
Maritime Freight

DATE	29/1/2024
COUSTOMER	DISMEDIC
PORT OF ORIGIN	NEW DELHI
PORT OF DISCHARGE	GUAYAQUIL
MARITIME FREIGHT	\$688,00
TOTAL	\$688,00

Source: Own elaboration, (2024)

Additionally, the shipping company will also charge for some of its local services, such as:

- **Deconsolidation:** Refers to the separation of boxes within the same container that have different packaging.
- **Port charges:** Refers to the fees charged by the port of origin for using its facilities.
- **Collection fee:** Indicates the amount to be paid for the surcharge on freight at the port of origin.

Table 20

Unloading charges at the destination port

CUANTITIE	DESCRIPTION	UNIT PRICE	TOTAL PRICE
8,6 m3	DESCONSOLIDATION	\$22,00	\$189,20
1	Port Expenses	\$120,00	\$120,00
1	COLLECTION FEE	\$45,00	\$45,00
Total Local Expenses			\$354,00
TAXES		15%	\$354,00
TOTAL			\$407,33

Source: Own elaboration, (2024)

Storage costs at the destination port are established according to the tariff schedule of the Port Authority of Guayaquil. Each port has different prices, but the differences in service costs between ports are minimal. The costs for port storage related to the import from India are detailed as follows:

- **Minimum Tariff for Loose Cargo Storage:** The cost varies depending on the number of days, with 16 days being the maximum time.

- **Handling for Cargo Inspection:** This involves the manipulation of cargo that is prepared for inspection.
- **Inspection Crew for 100 Bales or More:** This includes physical inspection and hiring of appropriate personnel for the examination of non-containerized cargo.
- **Tallying Service:** This allows verification that the manifests of cargo transferred from the ship to the dock match the Bill of Lading (BL) documents.
- **Loose Cargo Dispatch:** This refers to the authorized release of goods from the port. All storage costs are based on a 40-foot container with dimensions of 8.6 cubic meters, which are the same as those of the cargo imported by Dismedic in Chapter Two. Prices are obtained from the port authority's tariff schedule.

Table 21
Storage - Customs Warehouse

WAREHOUSING RATE			
DESCRIPTION	QUANTITY	UNIT PRICE	PRICE TOTAL
Minimum Tariff for Loose Cargo Storage	1	\$16,00	\$16,00
Handling for Loose Cargo Inspection	8,6m3	\$1,80	\$15,48
Inspection Crew for 100 Bales or More	8,6m3	\$1,79	\$15,39
Tallying Service	8,6m3	\$15,59	\$134,07
Loose Cargo Dispatch	8,6m3	\$2,24	\$19,26
TOTAL			200,21

Source: Port Authority Tariff Schedule of Guayaquil, (2024)

The established value that customs agents charge for their minimum fees for processing any customs import regime is outlined in the Organic Code of Production, Trade, and Investments. Consequently, if the goods are imported by air or sea, the minimum fee will be 60% of a unified

basic salary. The customs agent may charge for their services for imports from India the detailed amount below. The established values were obtained through a proforma requested via email.

Table 22
Customs Agent Fees

DESCRIPTION	QUANTITIES	UNIT PRICE	TOTAL, INCLUDING VAT
REGIME 10 FOR NATIONALIZATION CONSUMPTION"	1 contenedor	\$276	\$309,12
AIR CUSTOMS CLEARANCE	1 contenedor	\$230	\$257,6

Source: Customs Agent, (2024)

To complete the import process, an authorized transport service is hired to enter the port facilities and move the goods to the importer’s warehouse. These prices are quoted through negotiation with the provider.

Table 23
Domestic Transport Expenses

AUTHORIZED TRANSPORT			
QUANTI TY	DESCRIPTION	UNIT PRICE	TOTAL, PRICE

1	TRANSPORT FROM GUAYAQUIL UNTIL CUENCA	\$650	\$650
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Source: Own elaboration, (2024)

For customs clearance, the tariff item established is detailed. Within the foreign trade taxes, there is the Ad-Valorem tax at 5% according to the tariff item established by Ecuador Customs. This tax was calculated on the total value of the goods (FOB) plus insurance, with the total sum of these two amounts subject to a 5% tax rate. Additionally, there is the FODINFA tax at 0.5% applied to the total CIF value, and VAT at 15% applied to the taxable base plus ADVALOREM, FODINFA, and ICE. After determining the values of each duty, the total amount to be paid to Customs is \$4,946.29.

Table 24
Customs Clearance Expenses

LIQUIDATION COSTUMS			
	CUSTOMS LIQUIDATION	RELEASED VALUE	AMOUNT TO PAY
PARTIDA RANCELARIA	3004.10.10.00	-	-
AD- VALOREM TAX	\$4.493,50	-	\$4.493,50
FODINFA	\$452,79	-	\$452,79
VAT 15%	\$14.325,64	\$14.325,64	
TOTAL	\$19.271,93	\$14.325,64	\$4.946,29
ADVALOREM =	FOB+SEGURO= TOTAL *(5%)		
FODINFA 0,5%=	EXCISE TAX+ INSURANCE*0,5*		

EXCISE TAX = COST+INSURANCE + FREIGHT (Tax Base of the Import)	\$90.558,00
VAT 15% over: Tax Base of the Import +ADVALOREM + FODINFA+EXCISE TAX	\$90.558,00+\$4.946,29=\$95.504,29*15% = Tax Base of the Import= \$14.325.64

Source: Own elaboration, (2024)

The analysis concludes with a detailed breakdown of the import expenses for each service contracted to carry out the import from India. To start, the FOB value is calculated in dollars through negotiation with the supplier. The maritime freight cost was obtained through a proforma request with the respective supplier. The cargo insurance was requested from the respective insurer; to obtain the price, both the FOB value and the maritime freight cost must be considered, allowing the insurer to calculate the premium and issue the insurance policy.

Continuing with the determination of expenses, the foreign trade taxes include the Ad-Valorem tax at 5% according to the tariff item established by Ecuador Customs, with a value of \$4,493.50, and the FODINFA tax at \$452.79. Other import expenses include: the customs agent's fees, transportation rental from the destination port to the importer's warehouses, port storage at the destination port, and unloading fees at the shipping port, which is located in New Delhi. The total of all these values generates the overall import cost at Dismedic's warehouses.

Table 25
Details of Import Expenses from India

IMPORT COSTS	TOTAL, VALUES
--------------	---------------

FOB	\$89.600,00
MARITIME FREIGHT	\$688.00
APPLIED INSURANCE	\$270
AD- VALOREM	The tariff item has a 5% rate.
FODINFA	0.5%
AD VALOREM TARIFF COSTS	\$4.493,5
FODINFA COST= 0.5% TOTAL VALUE OF EXCISE TAX	\$452.79
CUSTOMS AGENT FEES	\$276
RENTAL TRANSPORT, FROM PORT OF DESTINATION TO IMPORTER'S WAREHOUSE	\$650
PORT WAREHOUSING	\$200,21
DISCHARGE FEES AT THE PORT OF DESTINATION	\$407.33
TOTAL, IMPORT AT DISMEDIC WAREHOUSES	\$97.037,83

Own

Source:

elaboration, (2024)

To begin, a comparison of the imports from China and India is conducted, detailing the total import expenses. Starting with the analysis of this data, the following import expenses from India are detailed:

- **FOB Value:** The difference between the values of the two imports is \$16,400.00, representing 22.40% of the FOB value, indicating a price increase for medicines from India compared to China.
- **Maritime Freight:** The cost is \$1,161.00, representing a savings of 62.79% when importing from India compared to China.
- **Insurance:** The difference in insurance costs between China and India is \$20.40, with an 8.17% increase, suggesting a higher insured value of the goods from India compared to China.
- **Tariffs:** For example, the Ad-Valorem tax shows a difference of \$821.02, equivalent to 22.36%, indicating an increase in customs duties for imports from India compared to China.
- **FODINFA:** The difference in the amount payable for this tariff is \$76.30, showing a 20.27% increase from India compared to China.
- **Customs Agent Fees:** There is a price difference of \$21.00, which is an 8.24% increase from India.
- **Transport from Port to Warehouses:** The rental cost for transport from the destination port to the importer's warehouses shows an increase of \$290.00, or 80.56%, from India compared to China.
- **Port Storage at Destination:** The price difference is \$22.28, equivalent to 10.0%, indicating a savings in total storage costs from India compared to China.
- **Unloading Fees at Destination Port:** There is a savings of \$135.12, representing 22.02%, for imports from India compared to China.

Finally, the total import cost from India shows an increase of \$16,310.32, or 22.20%, compared to the total import cost from China. This is demonstrated in Table 26 and Graph 10.

Table 26

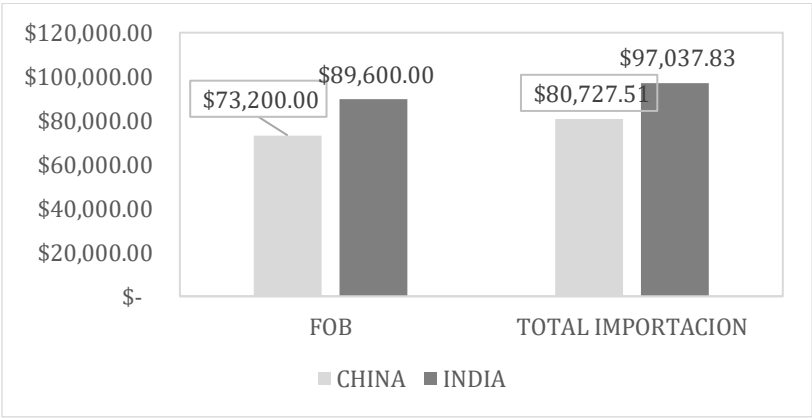
Total Imports China-India and Analysis of Savings or Increases from India

Import Variables	Import Expenses China	Import Expenses India	Differences in Import Expenses between China and India	Percentage Differences between China and India Imports	Comparison between China and India
FOB	\$73.200,00	\$89.600,00	\$16.400,00	22,40%	Increase in FOB Value from India Compared to China
Maritime Freight	\$1.849,00	\$688,00	\$1.161,00	62,79%	Savings in Freight from India
Insurance	\$249,60	\$270,00	\$20,40	8,17%	Increase in Insurance from India
Gastos de arancel ad Valorem	\$3.672,48	\$4.493,50	\$821,02	22,36%	Increase ad-valorem from India Compared to China.
Fodinfra expenses	\$376,49	\$452,79	\$76,30	20,27%	Increase in FODINFA from India Compared to China.

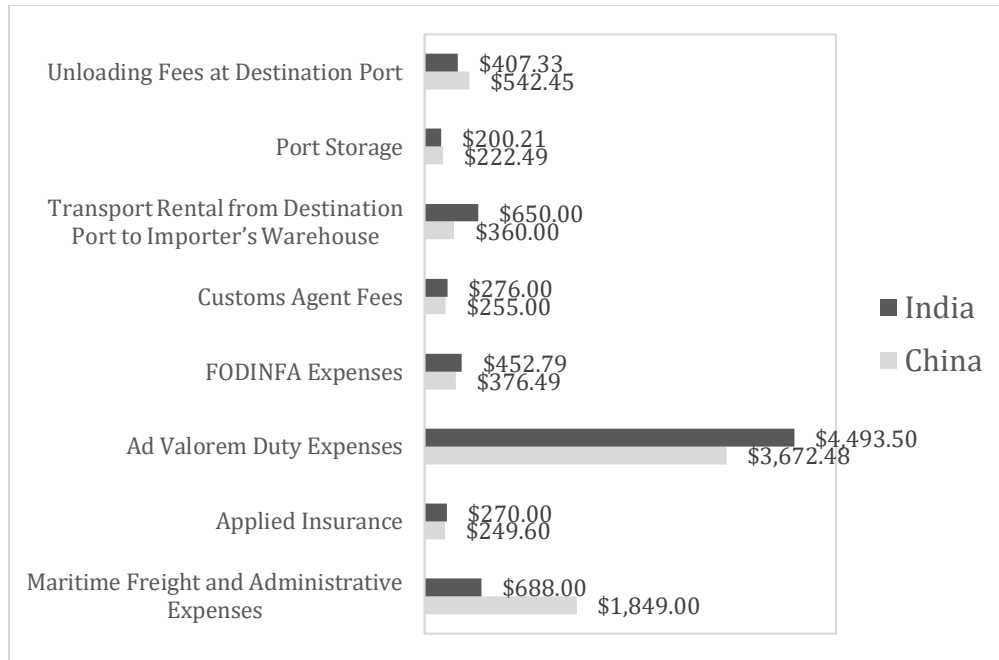
Customs agent fees	\$255,00	\$276,00	\$21,00	8,24%	Increase in Customs Agent Fees from India Compared to China.
Port Storage	\$360,00	\$650,00	\$290,00	80,56%	Increase in Transport Costs from India Compared to China.
Port Storage	\$222,49	\$200,21	\$22,28	10%	Increase in Transport Costs from India Compared to China.
Unloading Fees at Destination Port	\$542,45	407,33\$	\$135,12	24,91%	Savings from India Compared to China.
Total Import at Dismedic Warehouses	\$80.727,51	\$97.037,83	\$16.310,32	20,20%	Increase from India Compared to China

Source: Own elaboration, (2024)

Figure 10
Comparison of Imports Between China and India and Their Respective Expenses



Source: Own elaboration, (2024)



Source: Own elaboration, (2024)

Starting with the analysis to determine whether importing from India is a viable business option for Dismedic, it is necessary to interpret the prices of medications from various pharmacies in the city of Cuenca. The average retail price of omeprazole in pharmacies is \$5.79. Pharmacies typically have a profit margin of 30%, a figure obtained through discussions with various pharmacies. Continuing with the interpretation, the average retail price multiplied by the profit margin percentage gives the profit margin value. The average retail price minus the profit margin value results in the public sale price of omeprazole, which is \$4.00 each. Similarly, for Meropenem, the average retail price in pharmacies is \$57.14, with a 30% profit margin. The profit margin value is \$17.14, leading to a public sale price of \$40.00 each.

There are scenarios with different profit margin percentages. For example, if the profit margin percentage is 25%, the public sale price of omeprazole would be \$4.34 each, and for

Meropenem, it would be \$42.86 each. These scenarios indicate that if the profit margin were lower, the prices would be higher, as pharmacies need to maintain the average retail price.

Table 27
Interpretation of Medication Prices and Profit Margins in Pharmacies

MEDICATION PRICES IN PHARMACIES		
OMEPRAZOL	MEROPENEM	Pharmacies
\$ 6,00	\$ 58,70	ECONOMICAS
\$ 6,50	\$ 55,00	CRUZ AZUL
\$ 5,00	\$ 53,00	POPULAR
\$ 6,25	\$ 64,00	FYBECA
\$ 5,20	\$ 55,00	PHARMACYS
\$ 28,95	\$ 285,70	Total Sum OF Prices
\$ 5,79	\$ 57,14	Pharmacy Profit Margin Percentage
\$ 0,30		Profit Margin Value
1,74	\$ 17,14	Profit Margin Value
\$ 4	\$ 40,00	Retail Price
Scenarios with Different Pharmacy Profit Margins		
25%		Profit Margin Percentage
\$ 1,45	14,29	Profit Margin Value
\$ 4,34	42,86	Retail Price

Source: Own elaboration, (2024)

Starting with the analysis to determine if importing from India is a viable business option for Dismedic, it is necessary to interpret the prices of medications from various pharmacies in the city of Cuenca. The average retail price of omeprazole in pharmacies is \$5.79. The profit margin

in pharmacies is 30%, a figure obtained through discussions with various pharmacies. Continuing with the interpretation, the average retail price multiplied by the profit margin percentage gives the profit margin value. Subtracting the profit margin value from the average retail price results in a retail price of \$4.00 each for omeprazole. Similarly, for Meropenem, the average retail price in pharmacies is \$57.14, with a 30% profit margin. The profit margin value is \$17.14, resulting in a retail price of \$40.00 each.

There are scenarios with different profit margin percentages. For example, if the profit margin percentage is 25%, the retail price of omeprazole would be \$4.34 each, and the retail price of Meropenem would be \$42.86 each. These scenarios show that if the profit margin were lower, the prices would be higher, as pharmacies need to maintain the average retail price.

A comparison was made between the delivery times of medications to Dismedic's warehouses from China and India. The analysis considers the following variables:

- The total import cost to Dismedic's warehouses from China is \$80,727.51, and from India is \$97,037.83.
- The delivery time for medications from China was 70 days, whereas the supplier in India determined a delivery time of 25 to 30 days upon confirmation of the purchase order for \$89,600.00, with half of the FOB value of \$44,800.00 paid upfront and the other half upon arrival of the medications at Dismedic's warehouses.
- The customs clearance process is estimated to take 10 days, but for both China and India, it could be shorter if customs expedite the process.
- The total time for medications to reach Dismedic's warehouses from China is 110 days, whereas from India, it is 60 days. This means the importation process is faster from India,

allowing for 6 importations per year from India, compared to 3 times per year from China due to longer delivery times.

- The total import value for China and India, multiplied by the number of importations per year, results in a total import value of \$242,182.53 for China with 3 importations per year, and the same amount for India with 6 importations per year.

Table 28
Comparison of Import Arrival Times from China and India

COMPARISION CHINA- INDIA			
		CHINA	INDIA
TOTAL IMPORT COST AT DISMEDIC WAREHOUSES	TOTAL, VALUE	\$ 80.727,51	\$ 97.037,83
MEDICATION DELIVERY TIME AS PER PROVIDER DAYS	DAYS	70	30
CUSTOMS CLEARANCE		10	10
TIME OF MEDICATION ARRIVAL AT DISMEDIC WAREHOUSES		30	20
	TOTAL DAYS	110	60
NUMBER OF IMPORTATIONS PER YEAR		3	6
TOTAL IMPORT VALUE AT DISMEDIC WAREHOUSES RELATED TO THE NUMBER OF IMPORTATIONS PER YEAR		\$ 242.182,53	\$ 582.226,98

Source: Own elaboration, (2024)

A profit projection was conducted for Dismedic. For this analysis, the public retail price of omeprazole is \$4.00 each, with 8,000 units, resulting in a total sales value of \$32,000.00. For meropenem, the public retail price is \$40.00 each, with 2,000 units, yielding a total sales value of \$80,000.00. The total sales for both medications amount to \$112,000.00. Subtracting the total import value of the medications at Dismedic’s warehouses results in a profit of \$31,272.49 from China, and a total profit of \$14,962.17 from India. However, considering the total annual profit from 3 importations per year from China amounts to \$93,817.47, compared to India’s total annual profit of \$89,773.02 from 6 importations. The difference between the profits from China and India is \$4,044.45, with a percentage of 4.3%. Comparing the two profits, importing from China is more feasible, as indicated in Table 29 and Graph 12.

Table 29
Profit Projection for Dismedic from China and India

PROFIT PROJECTION						
China	omeprazole	meropenem		India	omeprazole	meropenem
			Retail price of the pharmacies			
	\$4,00	\$40,00			\$4,00	\$40,00
			Units of the medications			
	8000	2000			8000	2000
			Total, sale price per unit			
	\$32.000,00	\$80.000,00			\$32.000,00	\$80.000,00
			Total, sales of both medications			
\$112.000,00				\$112.000,00		
			Total profit for the			
\$31.272,49				\$14.962,17		

		company minus the total cost of importing the medications.	
	Total profits from the number of imports per year"		
\$93.817,47			\$89.773,02
\$4.044,45	Value of the difference in total profits between China and India"		
4,3%	Percentage difference in profits between China and India"		

Source: Own elaboration, (2024)

Figure 11:

Total Annual Profits for Dismedic from China and India



Source: Own elaboration, (2024)

To decide about importing from China or India, variables involved throughout the entire import process were considered, such as: prices of each contracted service, customs fees, delivery and arrival times of the medications, customs clearance process, and, above all, the total annual profit from the importation. Based on this, a score of 1 was assigned to high values indicating savings and 0 to low values indicating increased costs. Consequently, it is interpreted that China has higher scores with a total of 9 points, while India has a total of 6 points, indicating that importing from China is more feasible. As shown in Table 30.

Table 30
Weighting of Values for Decision-Making

VALUE WEIGHTING		
VARIABLES	CHINA	INDIA
FOB	1	0
Total Importation in Dismedic Warehouses	1	0
Maritime Freight	0	1
Insurance	1	0
Ad Valorem Duties	1	0
FODINFA Duties	1	0
Customs Agent Fees	1	0
Rental Transport, from Port to Importer's Warehouse	1	0
Port Storage	0	1
Unloading Fees at Destination Port	0	1
Number of Imports per Year	0	1
Delivery Time of Medications According to Supplier	0	1
Time of Arrival of Medications at Dismedic Warehouses	0	1
Total Import Value in Dismedic Warehouses Related to the Number of Imports per Year	1	0
Total Profit for the Company from Medication Imports	1	0

Weighting	1 High Value
	0 Low Value

Note: 1 is considered a high value, and 0 is considered a low value.

Source: Own elaboration, (2024)

Conclusion

In response to the first specific objective, it is noted that pharmaceutical imports in Ecuador from 2019 to 2022 were among the top seven products with the highest import demand in Ecuador. These products included mineral fuels, nuclear reactors, vehicles, machinery, food industry waste, plastics, and their manufactures.

Additionally, this objective highlights the main pharmaceutical exporting countries to Ecuador during the period from 2019 to 2022. According to Trade Map's International Trade Statistics, these countries were: The United States, Colombia, Germany, Mexico, Argentina, China, and India.

In response to this objective, it is also important to note that the trade agreement between China and Ecuador, specifically the Free Trade Agreement, allows medications and medical supplies imported by Ecuador to enter with a 0% tariff. Therefore, it can be concluded that trade agreements benefit the countries involved

In response to the second specific objective, it is observed that Dismedic's pharmaceutical imports in 2019 showed that national purchases represented 36.17% relative to the base year. In 2020, these purchases increased by 94.91% compared to the previous year, a value justified by the increased demand for pandemic-related medications. This led the company to consider internationalizing its operations (importing products). In 2021, the increase in purchases was 9.25% compared to the previous year. By 2022, there was a significant increase of 151.29% compared to 2021, highlighting that this growth was largely attributed to imports from the Asian country. The Incoterm used by the company for its imports was Free on Board (FOB), deemed the best option. Consequently, it is interpreted that national purchases from 2019 to 2021 did not

represent significant growth for the company compared to imports, which generated higher profits. Thus, imports are a revenue source that supports the company's growth, leading it to consistently comply with current regulations.

In response to the third specific objective, it is concluded that Dismedic has implemented several strategies, including the increased purchasing risk from 2019 to 2022, which was supported by the pandemic needs. Another strategy involves deciding to make imports starting in 2022 from China, primarily considering the product price. Additionally, the alternative of doing business with India is related to the number of days to have the goods nationalized (a shorter period compared to China). However, continuing imports from China results in higher revenues due to the lower product cost.

The main conclusion of this work is that, after comparing the total import costs between China and India, it is found that the total costs for each service contracted for importing from China are more beneficial and generate higher profits for the company, whether through one or up to three imports per year, due to the 70-day delivery time established by the supplier. However, considering India as a supplier could be more beneficial if the number of imports exceeds three per year, even though the product prices are higher. In this case, the import costs (maritime freight, port storage, and unloading fees) are lower, and the total import cost decreases with a higher number of imports.

Recommendations

It is suggested that Dismedic continues with its imports rather than relying on national purchases, as imports have proven to generate significant economic income for the company. Additionally, Dismedic should review its delivery times with suppliers, as importing from India may be beneficial if quicker delivery of goods is required. India should be considered as a business alternative.

On the other hand, if the company continues to import from China, it is recommended to negotiate with suppliers to improve delivery times. Faster delivery could allow for more imports per year, leading to greater profits.

Regarding trade relations between Ecuador and India, it is recommended that Ecuador establish trade agreements with India that benefit the pharmaceutical sector. Alternatively, Ecuador should consider joining the Asia-Pacific Economic Cooperation (APEC). Although Ecuador has been an associate member since 2018, it is not a full member. Joining this alliance could expand trade relations, promote economic ties with Southeast Asia, enhance access to economic cooperation with ASEAN member countries, and increase international participation, particularly in finance and trade.

It is suggested that the Ecuadorian authorities focus on fostering trade relations with India. Although former President Guillermo Lazo held meetings with India's Foreign Minister to discuss the possibility of negotiating a trade agreement in the pharmaceutical sector to boost cooperation and regulate biological, pharmaceutical, and medical devices, these negotiations were not concluded. Therefore, it is recommended that Ecuador take decisive actions in this regard.

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