

GT-Panama Thesis Series

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M.S. Supply Chain Engineering

Capstone Project “Retail Logistics Hub”

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Abstract

“It seems that if the world had to choose its capital, the Isthmus of Panama, would be appointed to this august destiny”

Simón Bolívar, Panama City 1826.

Despite the exposure Panama has had in previous years, the use of our geographical position and logistics assets still has a huge margin for development and improvement. Internationally, our nation is known for its canal and strategic position; however we have to exploit the potential as a regional distribution center Panama has in order to improve multinational companies supply chain's and show it to the world.

This study includes 3 possible economic zones in which a regional distribution center can be located in Panama, their characteristics, the benefits they offer and information regarding Panama's current status in terms of logistic assets. This information was obtained through qualitative interviews with some of the main institutions responsible of developing trade and logistics in Panama and also through the contribution of some important freight forwarders in the national and international markets.

In order to compare economically the possibility of establish a regional distribution center in one of the three selected areas, this project includes a tool that permits approximate the costs of starting operations in Panama and also a 5 years costs scenario.

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1. Introduction

Since colonial times, Panama has been a strategic point in the Americas for distribution of goods. This can be traced back to the 15th century, when the Portobello fair started as a way of commercial exchange between Spain and the viceroyalty of Peru, which comprehended the territory nowadays occupied by Argentina, Brazil, Uruguay, Paraguay, Bolivia, Colombia, Chile, Ecuador and Peru.

In the present, Panama continues bringing advantages for the distribution of goods, mainly for its geographical position and the incentives it offers for this kind of activity. However, the development that Panama has, compared to other countries as Singapore in terms of logistics shows that there is still a big room for improvement.

Panama counts with special economic zones, created to promote the foreign investment and create new jobs that can contribute to our economy. The main of those is the Colon Free Zone, which has been the center of commercial activity in Panama for the past 64 years. After the success of this free zone, the government has created other zones as Panama Pacifico, Albrook Export Processing Free Zone among others.

Taking advantage of the assets that Panama offers, this project's goal is to understand the benefits a global retailer can have by establishing their regional operations in one of the existing free zones or in a logistic park with no taxes incentives. In order to realize this, three locations were selected for the study: Colon Free Zone, Panama Pacifico and Parque Sur.

2. Literature Review

In their report on logistics (2002), The Working Group mentions that logistics is a “sizeable growth market worldwide. Valued at around \$320 billion per year, the industry is growing at an annual rate of 3-10%.

In their paper, Muñoz and Rivera (2010) point out that “the development plans in countries like Panama are bias by the president in charge and most times are truncated by the following government. For this reason the government has created a set of rules and regulations like law 41, which provides business with legislative support and guarantee not change in laws for the first ten years of operations”.

Zuñiga and Artavia (2005) mention in their article published by INCAE that “because of its infrastructure and financial system Panama has a better position compared to Guatemala, Honduras and Nicaragua”. In this same paper is mentioned the Puebla-Panama plan which is said that “will help to improve the infrastructure problem in the Central America region” and also “one of the main components is the development of a logistic corridor, connecting the countries of the region and creating a flexible and unified customs system”.

Kaluza, Kölzsch, Gastner and Blasius (2010) showed that by modeling all shipping networks using a Sea Web data base information on arrivals and departures of all ships with automatic identification system it can be concluded that Panama is the most central port in the world.

Muñoz and Rivera (2010) also mention in their paper that “Panama is a hub divided in two parts, one in the Atlantic and one in the Pacific. The integration of ports in the Pacific with the ones in the Atlantic has improved since the new railroad operations in the early 2000’s. But there is still a challenge for a more efficient highway joining Colon and Panama. The latest free trade zone at Panama Pacifico is a step forward into the development of a more comprehensive logistics hub with access to ports, airport and highway”.

3. Methodology

The structure and content of this project is divided in three main parts: Panama as a Logistic Hub, the Economic Zones Comparison Tool and the Business Plan.

Panama as a Logistic Hub part contains all the benefits and characteristic of the particular economic zone that distinguish them from one another. This part shows everything that an investor would need to know to see which economic zone works for their business.

In order to obtain this information, several meetings were arranged with the administration of each particular economic zone. Also some information was obtained from logistic papers, web pages and from the Georgia Tech web Portal.

The Economic Zone Comparison Tool contains all the establishment costs, operational costs and taxes that a company has to pay if they want to establish their business here in Panama. The tool has a five years cost scenario that helps the company interested in investing to have a long term projection.

This part was really a challenge because the companies involved see prices as a sensitive topic. However, the meetings were helpful for them to understand the objectives of the project and give us some information.

The base information to create the tool was given by DAMCO. They started by giving the information of the LCL demand, origins, destinations, import ocean freight and truck rates for some of their main retailers. The advisors of the project, Dr. Don and Dr. Amar, gave the direction that the tool should follow.

The tool was developed with the three scenarios of the three economic zones in the next 5 years. The tool is flexible and easy to understand and give a detailed cost perspective for the users.

The Business Plan is an idea of a consulting company made by fresh engineers to help new companies related with supply chain, improve their business and show them the advantages that Panama has to offer.

For the Business plan, we use a template given by Universidad Latina, specifically from the Institute of Business Development, that contains in detail all the characteristics that a new company should have

The main pillar of the business plan is all the information contained in this project that will help and give the direction of the company. We also use information from web sources to know about companies that already are in this business.

4. Panama as a Retail Logistic Hub

4.1 Colon Free Zone

The Colon Free Zone is a free trade zone located in the Atlantic gateway to the Panama Canal. It was the result of a study realized by Dr. Thomas E. Lyons, a United States specialist in international trade zones, who realized it under the orders of the president of Panama, Enrique Jimenez. After the study was completed, Jimenez dictated the Law No 18 of June 17, 1948, which creates the Colón Free Zone as an autonomous institution, subject to revisions from the presidency and the comptroller's office.

Location

It consists approximately of 240 hectares, making it the biggest free zone in the Americas and the second largest free zone in the world.

The Colon Free Zone is located on the Caribbean Isthmus, approximately an hour and a half by highway from the airport and one hour from the city of Panama.

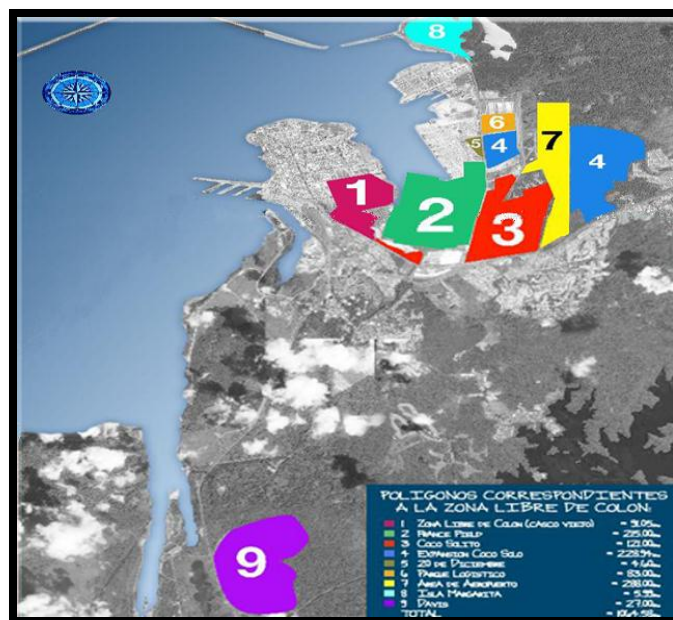


Figure 1. Colon Free Zone Map

Advantages of Colon Free Zone

Some of the advantages offered by Colon Free Zone are¹:

- Privileged geographical position
- Stable policy
- Grade of investments
- Located just a short distance from the Panama Canal (actually in an enlargement)
- The largest marine fleet in the work
- Four containers ports
- Two cruise terminals
- Principal center of distribution in the occidental hemisphere
- A solid banking center constituted by the national banks and international banks.
- The dollar as a circulating currency
- A modern auto highway
- Cargo and passengers airport in the Free Zone (actually in enlargement)
- 0% of tax and 100% opportunities for the investors
- The existence of 3,000 established business –enterprises
- One of the largest generator of 30,000 direct jobs opportunities at a national level
- An internal digital system of vigilance in the city at 24 hours
- Multinationals business of cargoes that offer services in less than 24 hours
- Office of intellectual property and unlawful capitols
- Institution certified under the norms at ISO 9001-2008

¹ www.zolicol.gob.pa

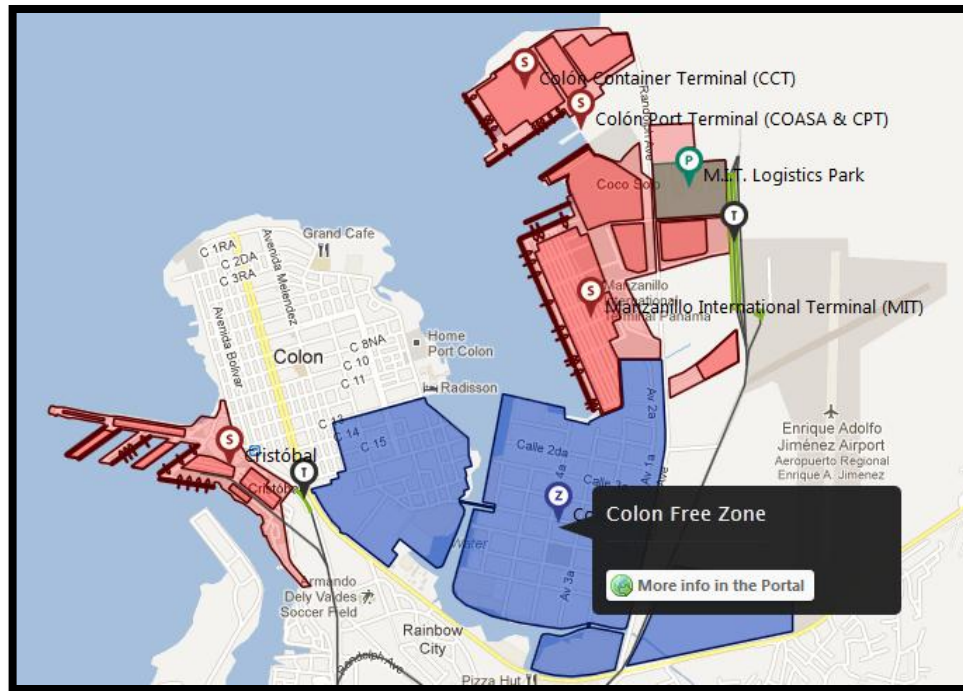


Figure 2. Colon Free Zone and Colon Ports

Colon Free zone is located in the Atlantic Gateway of the Panama Canal, surrounded by ports such as Manzanillo International Terminal, Colon Container Terminal and Cristobal Port. It's also next to the Enrique Adolfo Jimenez Airport and connected to the city through the railway.

Commercial Trade Statistics

Imports

For 2010, the imports totaled USD 10,228.3 million, an additional 23.9% more than in 2009. The main suppliers are²:

² <http://logistics.gatech.pa/en/assets/special-economic-zones/colon-free-zone/statistics>

- China (36%)
- Singapore (16.8%)
- United States (8.6%)
- Hong Kong (7%)
- Taiwan (3.7%).

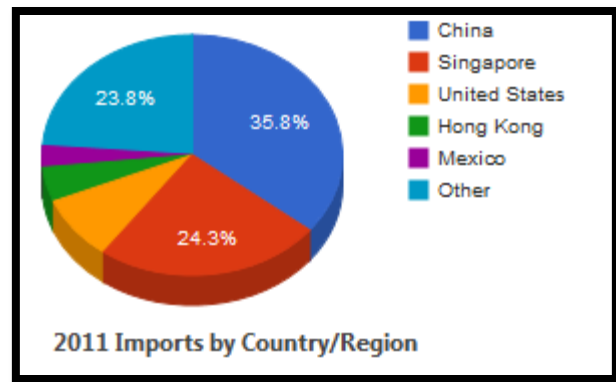


Figure 3. Imports by Country 2011

Re-Exports

For 2010, re-exports totaled USD 11,395.9 million, an additional USD 473.2 million more than in 2009. By the end of 2011, re-exports reached a total of USD 15,113.1 million, a figure that far exceeds the closure of the entire previous year. The main re-exported products were³:

- Chemicals products, drug and medicines (39.5%)
- Textiles and other related manufacturing goods (17.8%)
- Machinery and electronics (16.2%)
- Shoes and other final goods (8.9%)

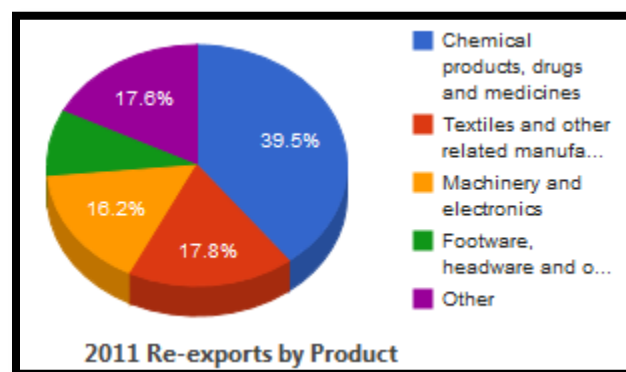


Figure 4. Re-Exports by Country 2011

³ <http://logistics.gatech.pa/en/assets/special-economic-zones/colon-free-zone/statistics>

Total Commercial Trade

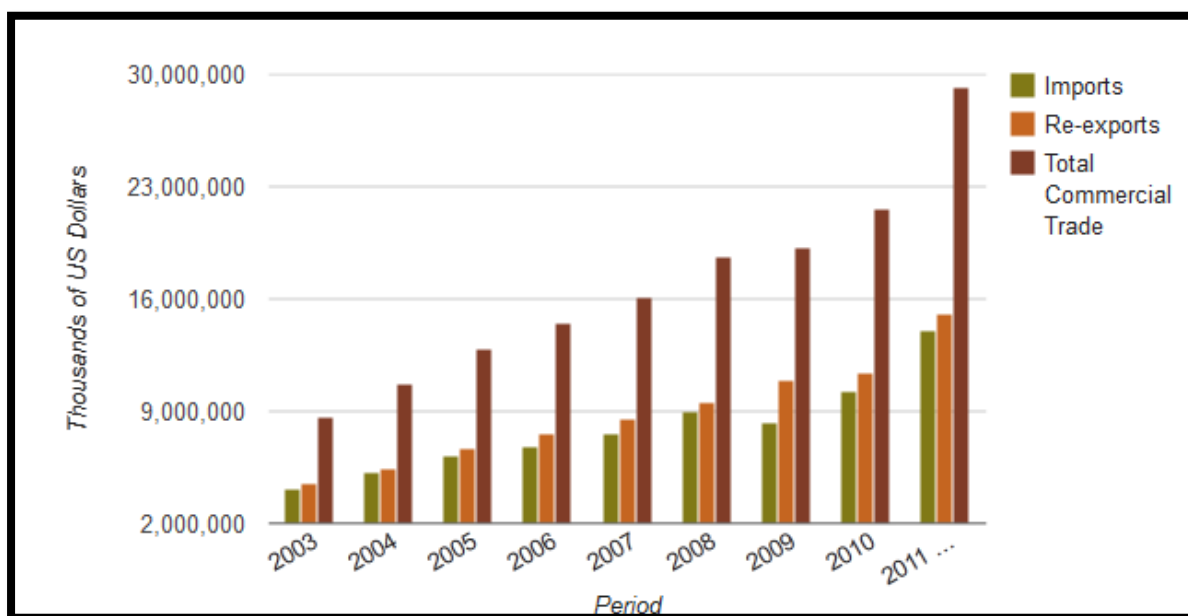


Figure 5. Commercial Trade 2003-2011

Main commercial partners

The main commercial partners of the region are:

- Puerto Rico (21.6%)
- Venezuela (17.0%)
- Colombia (12.3%)
- Panamá (7.8%)
- Costa Rica (3.9%)

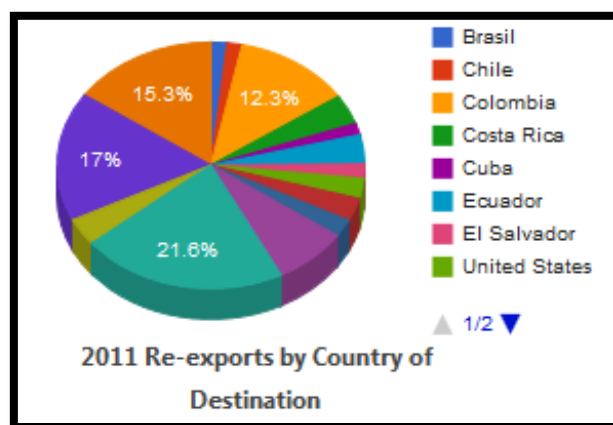


Figure 6. Re-Exports by Destination 2011

A significant reduction of trade between Colon Free Zone and Venezuela was on account of currency devaluation, and in the case of Puerto Rico the growth was on account of pharmaceutical sales.⁴

Companies Established in Colon Free Zone

Some of the multinational companies with presence or representation in Colon Free Zone are the following:



Figure 7. Companies with presence in Colon Free Zone

⁴ <http://logistics.gatech.pa/en/assets/special-economic-zones/colon-free-zone/statistics>

4.2 Panamá Pacífico

Panama Pacífico is a public-private partnership between the Panamanian government and the Real Estate multinational company London & Regional (master developers), in order to develop a free zone able to attract large multinational companies, logistics services, commerce and industry.

It was contemplated with the return of the old Howard military by the United States of America on December the 31st, 1999. This area was turned into a special economic zone on July the 20th, 2004 by the law number 41, which was made to turn the 2005 hectares of the old base into an important pillar for the development of the country.

Since its beginnings, the governments involved in the development of the zone were trying to attract companies with activities related with information technologies and telecommunications, manufacturing of high tech products, transport and logistics, aeronautic services, call centers among other in order to transform this zone into a multimodal center which can reinforce the position Panama has as one of the main hubs in global trade.

The government operates within this special economic zone through the Panama Pacífico Agency, who is responsible for assisting and informing investors about business opportunities and the benefits that Panama Pacífico offers. This agency was created through the law number 41 (July, 2004) and modified by the laws 31, 69 of 2009 and the law number 8 of 2010.

Among some of the agencies objectives we can find the following:

- The custody, administration and operation of the assets in the area.
- Adequate the infrastructure for the attraction of companies.
- Regulate the economic activities of the companies, workers and residents of the area.
- Coordinate the correct functioning of the integrated steps system.
- Fulfill with the terms and deadlines of the existing contracts.

- Registry of companies.
- Supervise the progress of the master plan.
- Attract investment for the creation of new jobs.
- Transfer of the “Know How” technology.

Panama Pacifico Characteristics:

Some of the Panama Pacifico characteristics are the following⁵:

- A surface of 2005 hectares.
- Strategic location in the heart of the global trade, at the Panama Canal Pacific Ocean’s entrance, next to the railroad, Balboa Port and 15 minutes away from Panama City. With direct Access to the Pan-American Highway, it connects Panama with Central America and North America.
- Operational International Airport.
- An ordered and usage of lands, organized by zones.



Figure 8. Panama Pacifico Master Plan Map

⁵www.app.gob.pa



Figure 9. Panama Pacifico Connectivity

Special Benefits of the Panama Pacifico Special Economic Area

Special Tax Benefits

- All companies registered in the Area are exempt from paying any indirect taxes.
 - The direct taxes described below are applicable to all companies except those established within law 41 of , amended by Laws 31 of 2009 as “Specific Business Activities”:
- Income Tax.
 - Dividends and Complementary Tax.
 - Exporting Tax

- All companies, as from July 1st, 2010, shall pay a 1% from their capital (minimum payment \$100.00 until a maximum of \$50000.00).

Special Regime of Municipal Taxes

Special Labor Guidelines

- Enforcing of the Code of Labor ruling with flexibility to settle the day off in between employees and employers.
- Possibility to operate during weekends and national holidays and mornings.
- Foreign labor from 10% to 15%, except when qualified labor is limited.
- Representatives from the Ministry of Labor & Employment within the Panama Pacifico area.

Special Customs Guidelines

- System based on post audits of inventories and no on physical controls.
- Representatives from the National Customs Authority in site.

Special Immigration Guidelines

- Special Investor and Working Visa.
- Family regrouping visas (employee's families).
- Speedy process for visas and work permits to foreigners.
- Tax-free import of domestic and personal article up to \$100000.00
- Representatives from the National Immigration Services on site.

Sponsored Activities within the Panama Pacifico

- Back Office Operations
- Logistic and Multimodal Services.
- Call Centers.
- High technology products and processes.
- Offshore Services.
- Data & Digital Information Transfers.

- Multinational Companies Headquarters.
- Cinematographic Industry.
- Maintenance, repair and reconversion of Airships.
- Aviation and Airport related Services.
- Sale of Property and rendering of series to ships and passengers with a foreign destination.
- Sale to other countries of merchandise not elaborated within the Area, by multinational companies.

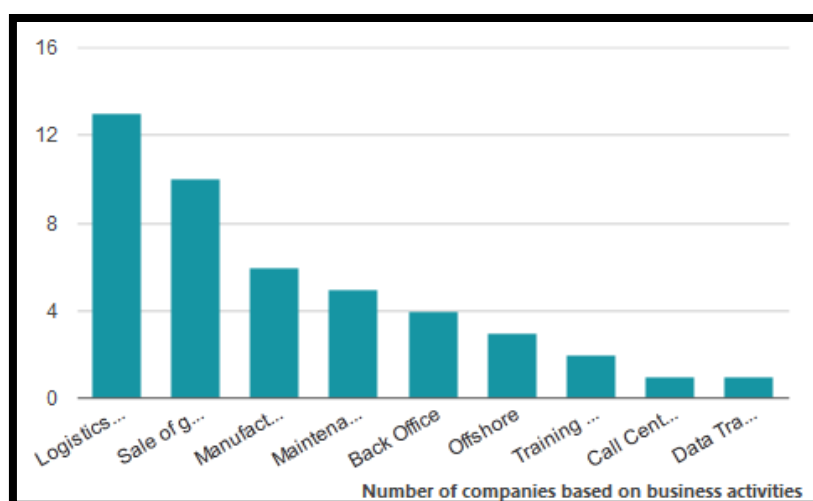


Figure 10. Companies Based on Business Activities

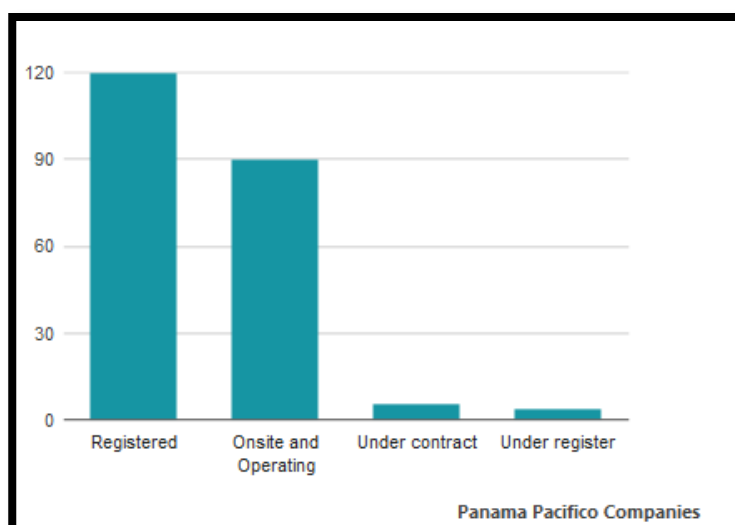


Figure 11. Panama Pacifico Companies

Companies Operating

Panama Pacifico Area has a total of 120 established companies. Out of this, 90 companies are fully operational. With an approximate working force of about 5,500 direct employees, an approximate of 90% is Panamanian. (APP, January 2012)

Among the companies already established in Panama Pacifico we can find the following:



Figure 12. Companies with presence in Panama Pacifico

4.3 Parque Sur

Parque Sur is a multi-purpose office/industrial park in Panama, developed by the company CBRE Panama. Strategically located inside Panama's metropolitan area, this park fronts the Corredor Sur and is just minutes away from the Tocumen International Airport. It also has access to the main transportation arteries, allowing it to be connected with the major sea ports and highways around the city.



Figure 13. Parque Sur Connectivity

Project Characteristics

- Located 10 minutes away from the center of the city.
- Fast access to the metropolitan roads.
- The first phase of the park is being constructed on a polygon of approximately 25.4 hectares.
- Phase 2 will include 12.7 new hectares.
- Easy access to the park from Corredor Sur and Domingo Diaz road.

- The park counts with optical fiber.
- Direct connection with Global Crossing.
- Data, voice and cable TV available.
- E1 and DID lines available.
- Backup water systems.
- Humid systems against fires.
- Security Checkpoint.
- Perimeter fence equipped with video surveillance and motion sensors.
- Closed-circuit televisión.
- Sewage treatment plant.



Figure 14. Completed Phase 1 Sketch Parque Sur



Figure 15. Completed Phase 2 Sketch Parque Sur



Figure 16. Companies with presence in Parque Sur

5. Economic Zones Comparison Tool

The Economic Zones Comparison Tool is a tool that contains all the information related to costs that investors would need to establish their business in Panama.

The template design of the tool shows two main tables; the parameters that are inputs from the investors and the pivot table that shows all the costs for all the economic zones during the 5 years. There is a third table that shows the revenue from each economic zone.

<i>Input</i>	
<i>Parameters</i>	
Type of Products	Shoes
Type of Economic Zone	Free Zone
Holding Cost Rate (8-15%)	15%
Average Inventory	12,000.00
Handling Unit Volume (cbm)	0.03
Unit Value (\$)	\$35.50
Cost of product to consumer (1 unit)	\$75.00
Day of Inventory	30
Demand Growth Rate	5%
Frequency Import Shipments	Once a week
Import Shipments	68
Frequency Export Shipments	Once a week
Export Shipments	68
Commercial Offices Square Meters	500.00
Warehouse Square meters	3,000.00
Number of Employees	200.00
Type of Operation	Represented
Location of the Commercial Office	Coco Solo
Location of the Warehouse	Coco Solito

Table 1. Parameters Table

5.1 Parameters

Demand

One important parameter for each economic zone is the demand, both import and export. DAMCO give us the initial import data of origins, amount of cargo per cbm and weight and the sea freight and trucking rates. With these, we calculate the demand for the next 5 years with a grow rate of 5% each year and calculate the sea freight cost and trucking cost.

The sea freight cost and the trucking cost is calculated by multiplying the demand by the corresponding rate. However, in the formula is indicated that depending of which one, the demand volume or the demand weight, is greater than the other, the formula will choose the greater and multiplied by the corresponding rate.

The next table shows the sea freight and trucking rates and the conversion factor from kg to ton. The conversion from kg to ton is needed to balance the formula

<i>Conversion Factor from kg to ton</i>	<i>Kg</i>	<i>Ton</i>
	1000	1
<i>DAMCO Trucking Rates (per cbm)</i>	<i>Cost per cbm</i>	<i>Minimum charge</i>
<i>From the Port to ColonFree Zone</i>	\$4.50	\$55.00
<i>From the Port to Panama City</i>	\$10.00	\$100.00
<i>Minimum Amount of Cbm</i>	5	

Table 2. Truckin Rates

Inside the tool there are two spreadsheets for each economic zone; one for demand import and one for demand export. The tool is flexible enough that if you want to change the demand the tool automatically will refresh the results table.

Shipments

For the parameter of shipments, the user gives the number of shipments, imports and exports, and has to choose the frequency between once a week, twice a week, once a month and twice a month. Depending on the frequency, the tool automatically annualized the amounts in order to calculate costs related to shipments, such as cargo entrance, forms and

printing and handling fees. It is important to mention that the charge for cargo entrance is independent of the amount of containers shipment has.

Inventory

For the Inventory parameter the user inputs the average inventory, the days of inventory and establishes a holding cost rate. The holding cost rate normally is between 8% and 15% of the merchandise cost.

The information about average inventory and handling unit volume in this case was given by a company that sales shoes (pair of sneakers) that is the product we are using for this study.

5.2 Assumptions

This tool contains many assumptions mainly with the product, the demand and costs.

1. The product that is been importing from all the destinations is shoes (pair of sneakers), it cost is 35.50\$ and it sale price is 75\$
2. The import demand equals the export demand and is imported and exported from the same origins and to the same destination during the 5 years scenario.
3. The import demand arrives at the Atlantic ports and then distributed to the economic zone.
4. To divide the import demand between the export destinations, the weights of each export destination have been calculated depending on the population of the country.
5. The demand growth rate is 5 %.
6. The holding cost rate is 15%.
7. The minimum salary per worker is \$500.
8. All the final costs are annualized.

5.3 Colon Free Zone Costs

The tool shows 3 types of costs for each economic zone: Establishments costs, Operational costs and Taxes.

For the Colon Free zone the costs are:

Establishment Costs	Operational Costs	Taxes
Guarantee Deposit	Cargo Entrance Cost	Import /Export Taxes
Operation Permit	Forms and Printing Export	Annual Tax
Operation Charge	Forms and Printing Import	Income Statement Tax
Commercial Offices Rental	Handling Fees	Income Distribution Tax
Land Rental	Import Ocean Freight Cost	
Garbage Collection	Export Ocean Freight Cost	
Security Fee Warehouse	Trucking Cost Import	
Cleaning Fee	Trucking Cost Export	
	Holding Cost	
	Warehouse Light and Water Billings	
	Labor Cost	

Table 3. Colon Free Zone Costs

The information was obtained from the meeting with Colon Free Zone Administration and from Georgia Tech Panama Web Portal.

The following table shows the amounts that is charge by the Colon Free Zone.

Information Table Colon Free Zone		
Charge by Type of Operation	Users	\$5,000.00
	Represented	\$5,000.00
	Public Storage	\$2,500.00
Rental Cost per m2 Comercial Offices	Colon	\$5.50
	France Field	\$3.75
	Coco Solo	\$3.25
	No Apply	\$0.00
Rental Cost per m2 Warehouse	Colon	\$1.40
	France Field	\$0.80
	Coco Solo	\$0.80
	Coco Solito	\$0.50
	Davis	\$0.50
	No Apply	\$0.00
Cargo entrance (per shipment)		\$150.00
Security Fee		
Range m2 up to	834	\$100.00
Range m2 up to	35000	\$0.12
m2 Greater than	35000	\$4,250.00
Garbage Collection Monthly Rate		
m2 Less than	500	\$30.00
Range m2 up to	799	\$45.00
Range m2 up to	1199	\$65.00
Range m2 up to	1999	\$80.00
Range m2 up to	2999	\$90.00
Range m2 up to	5000	\$100.00
m2 Greater or equal than	5001	\$120.00
Forms and Printing (per transaction)		\$15.00

Table 4. Colon Free Zone Information

The tool contains the necessary formulas to charge depending on the type of operation, and the amount of square meters. As you can see almost all the establishment costs depend on the amount of square meters.

5.4 Panama Pacifico Costs

For Panama Pacifico the costs are:

Establishment Costs	Operational Costs	Taxes
Registration Companies	Cargo Entrance Cost	Import/Export Taxes
Annual Charges Company Reg	Forms and Printing Export	Real Property Tax
Warehouse Rental Cost	Forms and Printing Import	Annual Tax (1%)
Insurance	Handling Fees	
Maintenance Cost	Import Ocean Freight	
Transportation Management	Export Ocean Freight	
Property Management	Trucking Cost Import	
	Trucking Cost Export	
	Holding Cost	
	Warehouse Light and Water Billings	
	Labor Costs	

Table 5. Panama Pacifico Costs

The information was obtained from the meeting with Panama Pacifico Administration, London & Regional Masters Developers and from Georgia Tech Panama Web Portal.

The following table shows the amounts that is charge by Panama Pacifico.

Information Table Panamá Pacifico		
Cost of Company Registry m2		
Range m2 up to	100	\$1,000.00
Range m2 up to	500	\$1,500.00
Range m2 up to	1000	\$2,000.00
m2 Greater or equal than	1001	\$3,000.00
Cargo entrance (per shipment)		\$150.00
Rental Cost per m2 Warehouse		\$8.75
Insurance per m2		\$0.07
Maintenance Cost per m2		\$0.26
Transportation Management per m2		\$0.20
Property Management per m2		\$0.26
Forms and Printing (per transaction)		\$10.00

Table 6. Panama Pacifico Information

5.5 Parque Sur Costs

For Panama Parque Sur the costs are:

Establishment Costs	Operational Costs	Taxes
Warehouse Constructed Price	Cargo Entrance Cost	Import/Export Taxes
Maintenance Cost	Forms and Printing Export	ITBMS
	Forms and Printing Import	Annual Tax (1%)
	Handling Fees	
	Import Ocean Freight Cost	
	Export Ocean Freight Cost	
	Trucking Cost Import	
	Trucking Cost Export	
	Holding Cost	
	Warehouse Light and Water Billings	
	Labor Costs	

Table 7. Parque Sur Costs

The information was obtained from the meeting with Parque Sur Administration. There was no data about this economic zone in the web portal, so this is a contribution from our project to the Georgia Tech Logistics Innovation & Research Center.

The following table shows the amounts that is charge by Parque Sur.

<i>Information Table Parque Sur</i>		
Rental Cost per m2		\$8.50
Maintenance Cost per m2		\$0.60
Cargo entrance (per shipment)		\$150.00
Forms and Printing (per transaction)		\$15.00
Insurance (of Merchandise cost)		1%
Import/Export Taxes (of CIF)		5%
ITBMS (of import/ export taxes)		7%
CIF (Insurance + Merchandise Cost +Flete)	1 year	\$77,890,489.25
	2 year	\$81,785,013.71
	3 year	\$85,874,264.40
	4 year	\$90,167,977.62
	5 year	\$94,676,376.50

Table 8. Parque Sur Information

Because Parque Sur is not a free zone area, we had to calculate the import and export taxes. It is 5% of CIF amount. CIF is the sum of Merchandise cost, Insurance (1% of merchandise cost) and Freight cost. Additional there is an ITBMS tax that is 7% of the import /export tax.

5.6 Results

The table below shows the results of combining all the costs and comparing each economic zone.

Table 9. Costs Results

Year	1		
Type of Cost	(Todas)		
Amounts	Economic Zones		
Costs	Colon Free Zone	Panama Pacífico	Parque Sur
Cargo Entrance Cost	\$489,600.00	\$489,600.00	\$489,600.00
Cleaning Fee	\$60.00		
Commercial Office Rental Cost	\$19,500.00		
Export Ocean Freight Cost	\$2,857,788.45	\$2,857,788.45	\$2,857,788.45
Garbage collection	\$1,200.00		
Guarantee Deposit	\$7,560.00		
Handling Fees	\$87,312.00	\$87,312.00	\$87,312.00
Holding Cost	\$63,900.00	\$63,900.00	\$63,900.00
Import Ocean Freight Costs	\$6,970,435.40	\$6,970,435.40	\$6,970,435.40
Import/Export Taxes	\$0.00	\$0.00	\$3,894,524.46
Labor Costs	\$1,200,000.00	\$1,200,000.00	\$1,200,000.00
Land Rental Cost	\$18,000.00		
Operating Charge	\$5,000.00		
Operation Permit	\$2,400.00		
Security Fee Warehouse	\$4,320.00		
Trucking Cost Export	\$438,984.41	\$632,949.86	\$632,949.86
Trucking Costs Import	\$284,840.85	\$632,957.45	\$632,957.45
Warehouse Ligth and Water Billings	\$12,000.00	\$12,000.00	\$12,000.00
Registration Companies		\$2,500.00	
Annual Charges Company Registry		\$3,000.00	
Warehouse Constructed Price			\$25,500.00
Maintenance Cost		\$9,360.00	\$1,800.00
Warehouse Rental Cost		\$315,000.00	
Insurance		\$2,520.00	
Transportation Management		\$7,200.00	
Property Management		\$9,360.00	
Real Property Tax		\$0.00	
Annual Tax (1%)	\$1,353,461.62	\$1,345,295.00	\$1,348,348.20
Income Statement Tax (2%)	\$2,706,923.25		
Income Distribution (3%)	\$4,060,384.87		
ITBMS			\$5,724,950.96
Forms and Printing Export	\$489,600.00	\$489,600.00	\$489,600.00
Forms and Printing Import	28\$48,960.00	\$32,640.00	\$48,960.00
Total	\$21,122,230.85	\$15,163,418.16	\$24,480,626.79

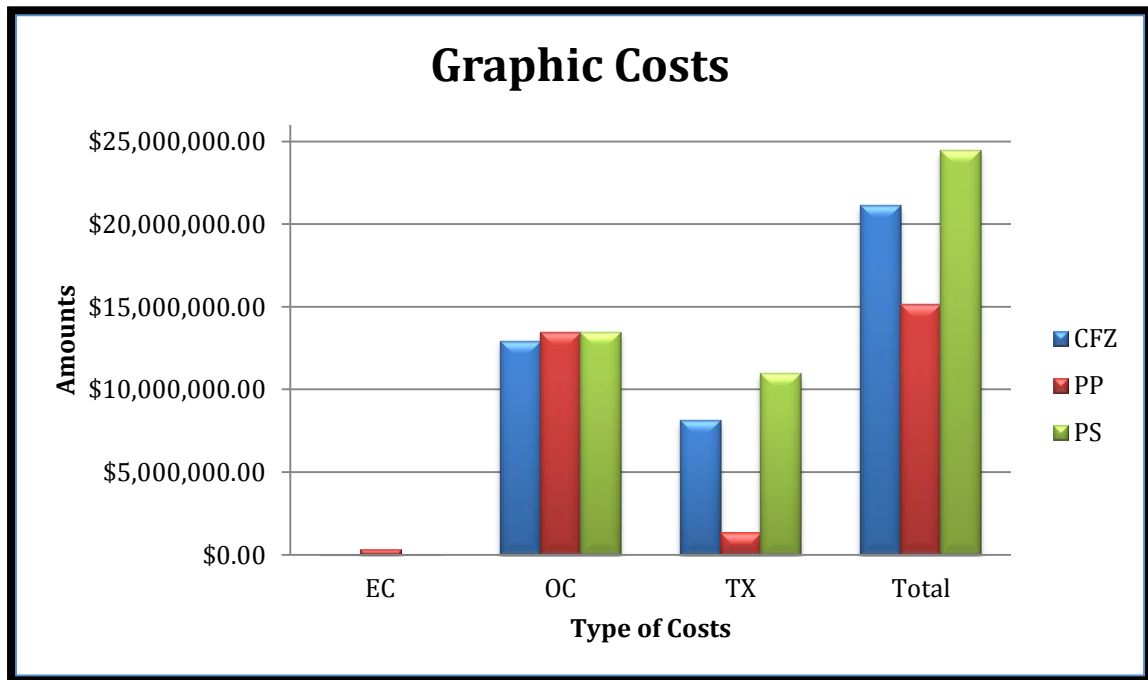


Figure 17. Results Graphic Costs

The table above shows that Panama Pacifico is the less expensive between the three economic zones.

For establishment costs Colon Free Zone is less expensive. The most expensive one is Panama Pacifico.

For operational costs for each economic zone the costs are similar, however Colon Free Zone is the less expensive because this particular zone is 10 minutes from the Atlantic ports and the trucking costs will be less than the trucking costs for Panama Pacifico and Parque Sur.

For taxes Parque Sur is the most expensive because is not a free zone area. Here is the major difference between Colon Free Zone and Panama Pacifico. Colon Free Zone has two more taxes to pay than Panama Pacifico.

6. Miami as a Competitor of Panama

Overview

For the past couple of years, Miami has been considered one of the main hubs for distribution throughout the region. Companies such as DAMCO, Kia and Hyundai have presence in Miami, and many of those types of companies make their regional distribution from there.

The connectivity it offers and the availability of trained manpower in a stable business environment makes it an attractive point for investing on a regional distribution center.

From this point we decided to make a comparison of how much it costs to locate and operate a regional distribution center in Miami and Panama to comprehend the advantages Panama has to offer.

Comparison

The two following tables show all the information we were able to get from Miami. We didn't get a lot of information but still it shows that Miami will be more expensive than any of the other three economic zones.

Establishment Costs	Operational Costs	Taxes
Warehouse Rental Cost	Security Fee Warehouse	Real Property Tax
Commercial Office Rental Cost	Forms and Printing Export	
	Forms and Printing Import	
	Import Ocean Freight Cost	
	Export Ocean Freight Cost	
	Trucking Cost Import	
	Trucking Cost Export	
	Holding Cost	
	Warehouse Ligth and Water Billings	
	Labor Costs	

Table 10. Miami Costs

<i>Information Table of Miami</i>		
Rental Cost of a warehouse per m2		\$ 107.00
Rental Cost of a office per m2		\$ 172.00
Security Fee		\$ 10,000.00
Forms and Printings		\$ 35.00
Warehouse Light and Water Billings		\$ 60,000.00
Automated Export System (AES) fee per B/L, collected by US Customs		\$ 25.00
Annual Property Taxes		\$ 488,000.00
Minimum Salary (per worker)		\$ 1,227.00

Table 11. Miami Information

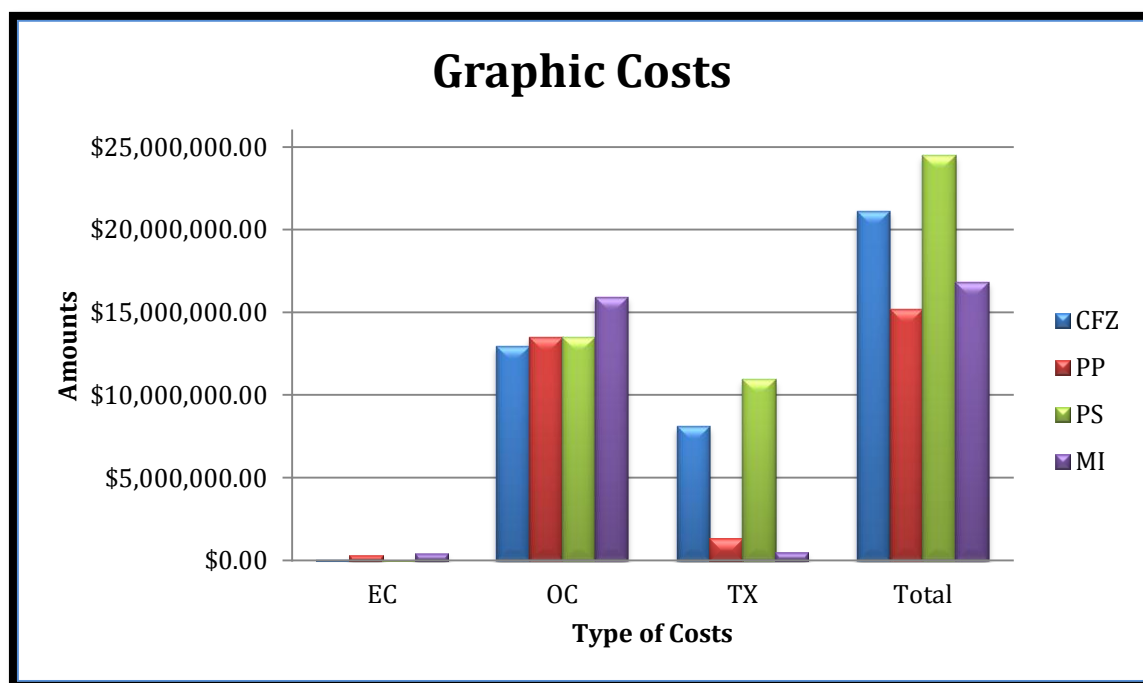


Figure 18. Results Costs Graphic Miami

We compare the three previous economic zones with Miami and the results are in the following graphic.

The table shows that for establishment and operational costs Miami is more expensive than the other ones. For the taxes, the information about Miami is not real because we could get only the real property tax. There are many taxes that we are missing for this analysis.

7. Conclusion

After completing this project it can be concluded the following:

- ***There is not a better zone than the other:*** Each zone offers different advantages for the companies that are planning to establish their operation there. The benefits a company can get depend on the type of activity, sources, sinks they may have.
- ***Panama offers excellent connectivity:*** According to the interviews we had with people inside the retailing business, Panama offers a level of connectivity that no other country of the region can offer.
- ***Lack of qualified labor:*** The main disadvantage Panama has is the quality of its human resources. We need to keep working in producing educated supply chain professionals that can understand what Panama can offer.
- ***Parque Sur right now is out of competition comparing it with the other two economic zones:*** For a distribution operation Parque Sur does not offer benefits such as the ones offered by Colon Free Zone and Panama Pacifico. This makes the park less competitive and may not help them to attract foreign investors who want to establish distribution operations there.
- ***Our study could be expanded not only to promote investments from retailers, but from other industries:*** This study needs to be expanded, including in the tool other types of products and taxes that were not taken in consideration, such as municipal taxes.

8. Business Plan

Executive summary

Panama Logistics Consulting Group (PLCG) is an ambitious innovative new company that is attempting to help, guide and advice foreign and domestic companies to use Panama as a retail hub. With an experienced group of consultants PLCG intends to grow at more than 20% per year through solid customer service, logistics tools, a great sales plan, proven competitive strategies, and a group of people that bring dynamic energy to the company and the sales process.

This start-up consulting firm is formed by three business consultants. Each consultant specializes in many disciplines or areas of expertise within logistics (for example: supply chain management, design and operations, warehouses, IT, transportation, among others).

Our consulting firm is competing with regional and specialty consulting firms, as well as the consulting groups of international accounting firms such as KPMG LLP, Ernst & Young LLP, Deloitte & Touche LLP, PricewaterhouseCoopers LLP, and Andersen Consulting. These companies are capable of offering some level of expertise in the Operational field which attracts clients looking to grow operations in a country like Panama.

PLCG's financials are realistic, and based on very conservative sales figures relative to the industry as a whole. That is because one of the goals of Panama Logistics Consulting Group is to build the business one client at a time, and to serve each client as if it were the last. This is how loyalty is generated, and cultivated. Customer service is what PLCG will do best, and is a large part of the company's overall mission.

7.1 Profile of the Business

Panama Logistics Consulting Group is a company focused on helping and guiding start-up businesses and companies at a domestic and international level that want to get established in Panama due to its strategic geographical position and all the advantages that the country has to offer.

The main purpose is to help companies with useful strategies on how and where to locate a warehouse or a distribution center in Panama. It was created a powerful tool in which companies can have a panoramic view of all the requirements, the establishment and operating costs at different locations in Panama; and the cost savings of using Panama to export regionally among others.

7.2 Mission

Panama Logistics Consulting Group aims to offer comprehensive consulting services to companies wishing to settle in Panama and take the competitive advantages that Panama offers as a logistics hub. We will focus on providing personal and specialized services to meet each client's specific needs.

7.3 Vision

Internationally renowned company with innovative methodology that works closely with clients, recognizing their needs and providing the best logistics solutions

7.4 Objectives

- *Short Term*

To help nationwide companies that are looking for the best place to get established taking in consideration their kind of business and products, encourage them to export regionally and use Panama as a logistic hub. This will help the company to achieve a good level of accreditation and be recognized nationally.

- *Medium Term*

Attract multinational companies who export to Central America, especially the ones who are presenting troubles in their supply chains, to use Panama as a hub. As a result they can improve their supply chains. In this phase, the company pretends to create customer loyalty and be positioned as a very strong and competitive company.

- *Long Term*

Capitalize on companies who still have no presence in the Latin American market. Ideally, we will present to them the benefits and advantages of this growing market and how good for their business will be to use Panama as a connector and regional distribution center. Finally, the company can be fully recognized and be internationally competent, achieving recognition as a global brand.

7.5 Keys to Success

Panama Logistics Consulting Group keys to success include:

1. A group of professionals with a broad range of specialty areas that complement each other.
2. A high level of experience in supply chain and logistics field.
3. A team approach on most consulting projects.

4. Many business contacts among the consultant group.

7.6 Company Ownership

Panama Logistics Consulting Group is equally owned by Danna Ramirez, Gennisse Forte and Juan Carlos Peña.

7.7 Commercial organization

The legal business structure of the consulting firm is a partnership since the company is composed by three owners. It was decided to use a general partnership which is based on the equal responsibility of each partner (unlimited civil liability).

7.8 Licenses

To start running a business in Panama, it is required to register it before the business is open. In order to accomplish with all the requirements we have to get:

1. An Income Tax Registry
2. A Commercial License
3. A Municipal Taxes
4. A Social Security Number

7.9 Location

Panama Logistics Consulting Group will be located in Costa del Este, Panama City with a rent of \$1500 per month. Costa del Este is a commercial, industrial and residential area. In the process of selecting the current location we studied the market and selected a location that will offer access to most of the companies in our field.

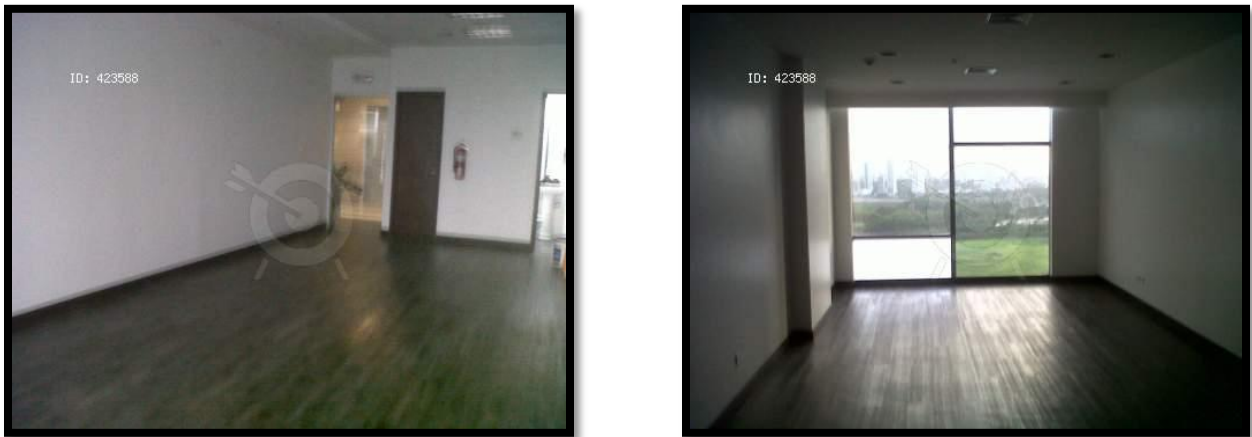


Figure 19. Location of the Company

7.10 Market Segmentation

Our target client can be any company that creates, sells and distribute goods regionally. We have divided in three segments:

- ***Foreign companies***

Foreign companies that are unaware about the process of starting a business in Panama, for example: which taxes they have to pay, where they have to go if they are looking to establish a company in Panama, viability, work force among others. It will be giving them all the information necessary to run their businesses in an optimum way.

- ***Domestic companies***

Domestic companies that are interested in grow and expand their operations regionally and need a deep analysis base in from where they receive merchandise and to where they want to send it.

- ***Start-Ups***

Most companies at the start-up level often are in need of expert advice and strategic planning in initiating a successful venture. It is believed that a majority of start-ups actually seek out consulting assistance. Those that do typically are searching for a comprehensive area of services.

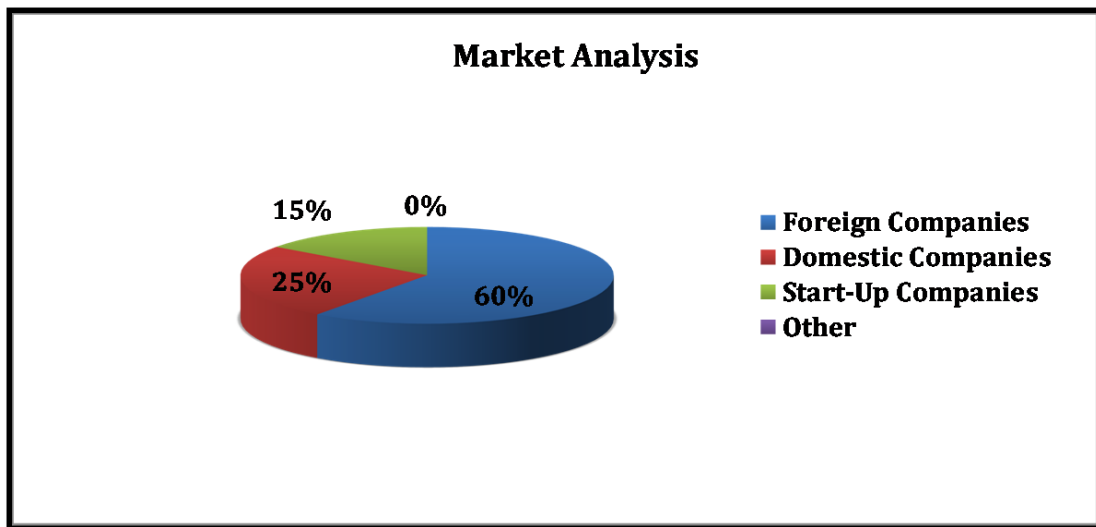


Figure 20. Market Analysis

This chart represents the priority that Panama Logistics Consulting Group is going to provide to each market based in their necessity for services. We know that many companies already look into the opportunity of establishing a branch/hub in Panama but they didn't get any answer. So we will give more attention to those foreign companies who are in need of this information. Our second market is those domestic companies who are outside these economic zones and definitely can take advantages of it. Finally, in order of priority our

third market is composed by start-up companies since new companies are not established all the time and will need a full guide.

7.11 Competition

Consulting services are becoming more focused on technology-based solutions to help clients improve cost management, quality, service, and R&D to obtain differentiation and competitive advantages.

Some of the main consulting firms in Panama include Deloitte, KPMG, PricewaterhouseCoopers, among other firms. These are companies specialized in financial consulting, having a branch that is specialized in operations consulting. One of the advantages we would have against competitors like this is that we are focused just in problems related to the establishment of distribution operations in Panama.

7.12 Trends in business growth

According to the report “World Economic Outlook” published by the International Monetary Fund, it is foreseen that Panama will grow 6.3% on the year 2012 and it will grow up to 6.5% in the year 2015. If this happens, Panama would be among countries such as Chile, Brazil and Peru, which are the economies with major growth in the Region. Also, the Panamanian government is investing in technologies, education and infrastructure related to logistics.

Now taking a look at the market for our customers, Central America has a high dependence of import on goods consumption and supplies. Consistent with the economist and Executive Director for Business Development Consultants (COPADES) of Nicaragua, Nestor Avendaño, in 2012 Central America will continue to grow economically as it has in the past two years, after contracting by the global economic downturn resulting from the financial crisis on Wall Street in September 2008 that affected the advanced economies.

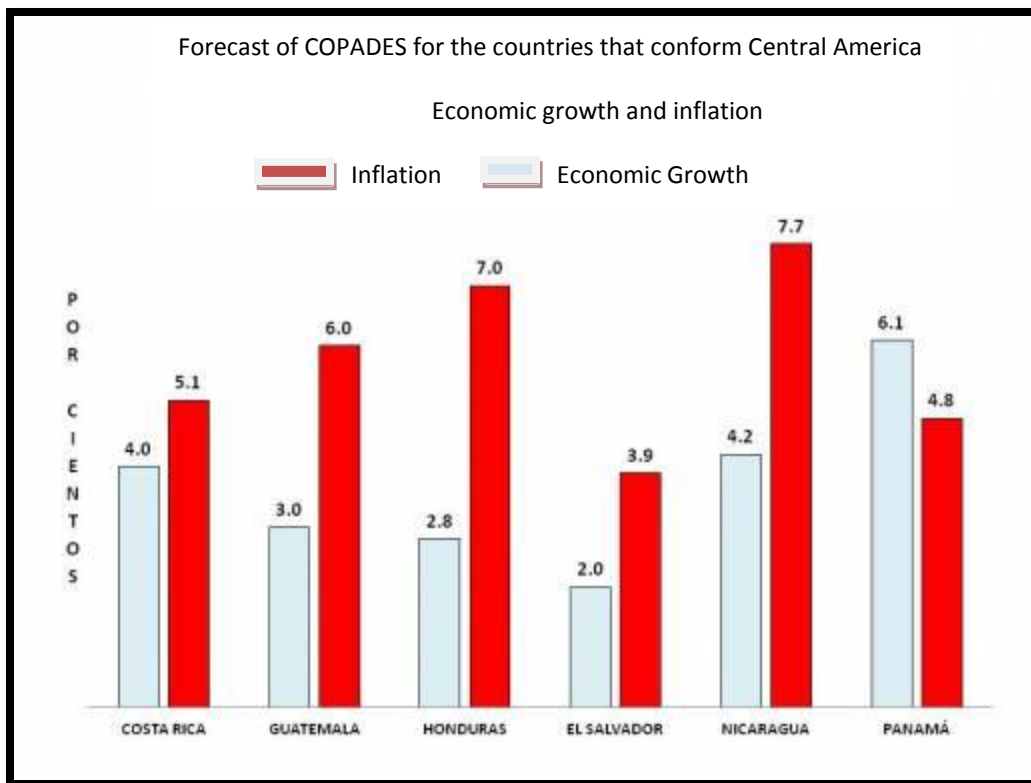


Figure 21. Forecast Market Growth

Avedaño goes on to explain that at current prices and U.S. dollar, regional GDP will reach the level of U.S. \$ 176.267 million, and with a population of 43.9 million inhabitants, GDP per capita for Central Americans regional would be U.S. \$ 4.012 in 2012. However, that income per capita annual average continues to show great differences: Panama and Costa Rica show the highest levels, with U.S. \$ 9.621 and U.S. \$ 9.393 respectively, at an intermediate level are located in El Salvador and Guatemala with U.S. \$ 3.803 and U.S. \$ 3.352 in this order, and at a fairly low level, Honduras and Nicaragua with U.S. \$ 2.027 and U.S. \$ 1.330 in the same order.

So it can be concluded from this information that this market is ascending economically, so it is stable for our clients to invest on it. And at the same time they can locate their distribution centers in Panama since Panama is also one of those countries that are growing and it's a stable for them locate their operations in Panama.

7.13 Sales Strategy

The following table outlines the sales forecast for the next three years.

Table 12. Sales Forecast

Sales Forecast			
	Year 1	Year 2	Year 3
Unit Sales			
Business Plans	38	46	56
Start-Up Consulting	30	36	44
National and International Companies Consulting	50	60	72
Other Ongoing Business Consulting	20	24	29
Total Unit Sales	138	161	201
Unit Prices	Year 1	Year 2	Year 3
Business Plans	\$2,000.00	\$2000.00	\$2000.00
Start-Up Consulting	\$60.00	\$60.00	\$60.00
National and International Companies Consulting	\$50.00	\$50.00	\$50.00
Other Ongoing Business Consulting	\$50.00	\$50.00	\$50.00
Sales			
Business Plans	\$76,000	\$92,000	\$112,000
Start-Up Consulting	\$1,800	\$2600	\$2,640
National and International Companies Consulting	\$2,500	\$3,000	\$3,600
Other Ongoing Business Consulting	\$1,000	\$1,200	\$1,450
Total Sales	\$81,300	\$98,800	\$119,690
Direct Unit Costs	Year 1	Year 2	Year 3
Business Plans	\$0.00	\$0.00	\$0.00
Start-Up Consulting	\$0.00	\$0.00	\$0.00
National and International Companies Consulting	\$0.00	\$0.00	\$0.00
Other Ongoing Business Consulting	\$0.00	\$0.00	\$0.00
Direct Cost of Sales			
Business Plans	\$0	\$0	\$0
Start-Up Consulting	\$0	\$0	\$0
Annual Reviews	\$0	\$0	\$0
Other Ongoing Business Consulting	\$0	\$0	\$0
Subtotal Direct Cost of Sales	\$0	\$0	\$0

This table is an estimate of sales based in the study of the current market and the share of the market that we expect to have as we acquire clients. We expect to grow 20% during the first three years.

7.14 Marketing Strategy

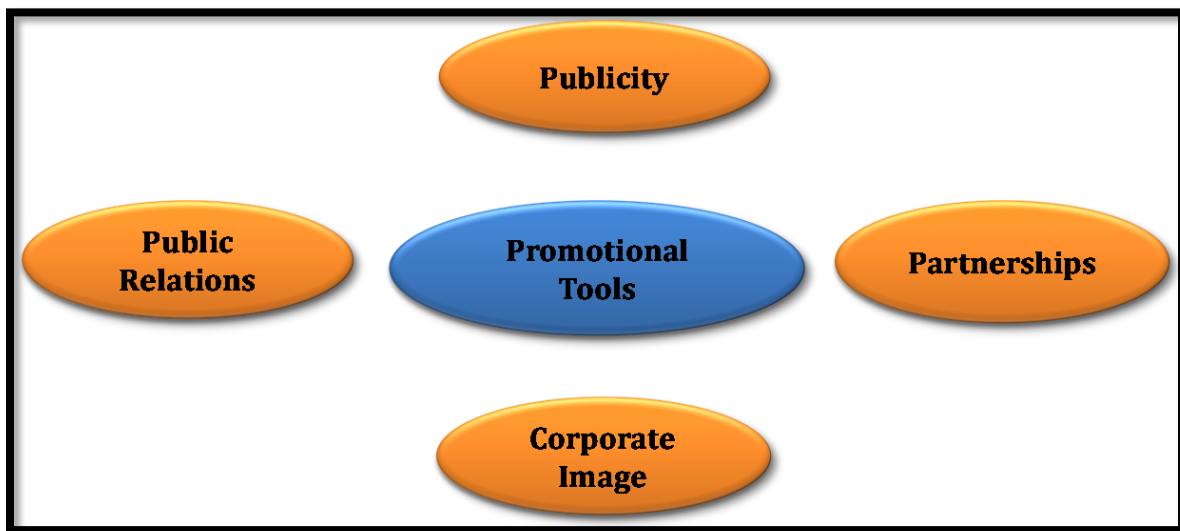


Figure 22. Marketing Strategy

Our strategy involves focusing on a specific area of expertise that is “logistics” in which we are a strong group as any company anywhere in the world. We are true experts in the introduction of new companies in the Panamanian market using technology as one of the main resources.

We plan to focus initially on four geographical markets; the United States, Europe, Asia and Latin America.

To attract our target market:

1. We are going to create a web page in which clients can learn of our services and contact us with questions, comments or concerns.
2. We plan to advertise our services in logistics journals and Business magazines.

3. We also, plan to build partnership with logistical journals and business magazines to write articles about Panama and the benefits the country offers as a Hub for retailers.
4. As part of our strategy we will be visiting big retailers in Panama that still don't have a distribution center in Panama but they distribute in Central America. The idea is to build a relationship with those retailers and to tell them about all the benefits of using Panama as regional distribution center.
5. As part of our marketing plan, we intend to become members of different Chambers of Commerce worldwide and if possible create partnerships with those organizations in order to promote our firm.
6. Participate in International Import /Export Expo's and conferences.

7.15 SWOT Analysis

We will show the strengths, weaknesses, opportunities and threats that Panama Logistics Consulting Group have:

Strengths:

- The company is compound by a group of very talented engineers who know in detail de logistics market at a domestic and international level.
- The mathematical tool created by these engineers is one of a kind because it shows up costs and operation immediately at the same time and projections of costs and profits to the amount of years you want.

Weaknesses:

- The consulting business, without being specialized in logistics, can provide a similar service replacement.
- Panama Logistics Consulting Group doesn't have presence in the consulting market so it will have to work hard to create a solid corporate image.

Opportunities:

- The Latin America market is growing which means that more companies will want to invest on it and Panama definitely can play a big role as the location of their distribution centers.
- The Panamanian government is investing more and more on improving its ports, airports and creating more economic areas beneficial to those wishing to establish businesses in Panama, so we can give to our clients more valuable reasons why Panama is definitely the best place to be established.

Threats:

- In this kind of business, sometimes it is difficult to build customers loyalty
- Heavy reliance on economic situation due to in time of crisis companies cut costs, which means less outsourcing external experts.

7.16 Human Resources

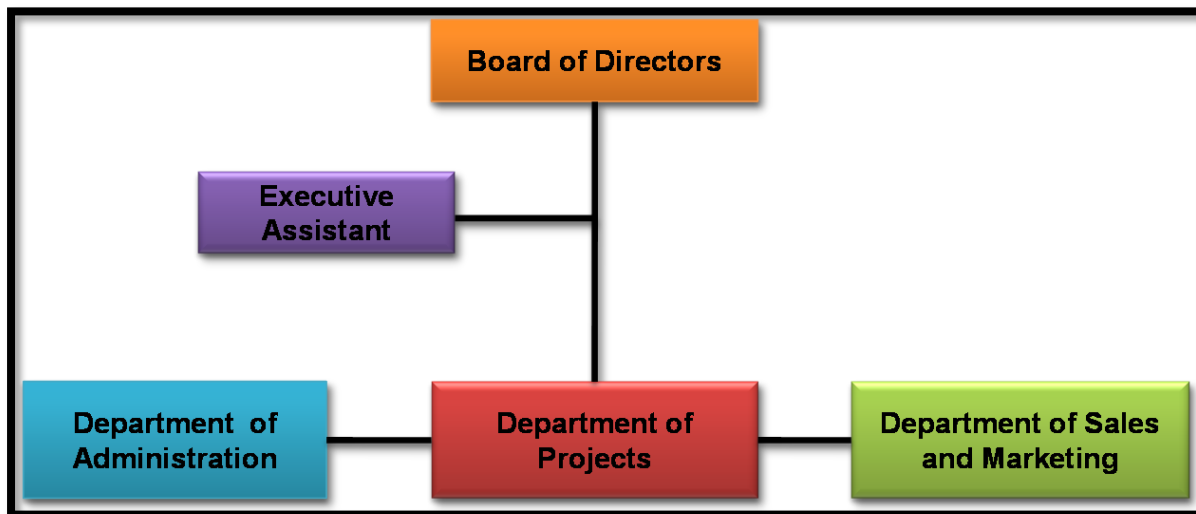


Figure 23. Human Resources Structure

The organizational chart above, illustrates the current structure for the company. Since we are at the start-up level and we are just initiating activities, the board of directors will be conforming by the three owners: Gennisse Forte, Juan Carlos Peña and Danna Ramirez.

Additionally, each one of the owners will be in charge of a particular department in order to maximize resources as follows: Danna Ramirez, will be leading the Administrative Department; Juan Carlos Peña, will be in charge of the Projects Department and Gennisse Forte of the Sales and Marketing Department.

For the next 3 years of operations, Panama Logistics Consulting Group won't be hiring or recruiting new personnel with the exception of an Administrative Assistant. This administrative assistant/ receptionist will be hired on the first year of operations to help with the day-to-day general administrative duties. The following table illustrates the personnel plan for the next three years.

Table 13. Personnel

<i>Personnel Plan</i>			
	Year 1	Year 2	Year 3
Owner / Consultants	\$36,000	\$72,000	\$108,000
Other (administrative assistant)	\$6,000	\$7,000	\$8,000
Total People	4	4	4
Total Payroll	\$42,000	\$79,000	\$116,000

7.17 Economic Viability

The company expects to raise a total of \$150,000; each owner is going to provide \$50,000. Combined, these funds will be sufficient to cover the company's expenses throughout the first year of operations, which is the most critical from the cash flow standpoint.

Table 14. Start Up

<i>Start-up</i>	
Requirements	
Start-up Expenses	
Salaries/ Rent/Utilities	\$30,000
Legal	\$2,000
Office Supplies	\$500
Other	\$5,000
Total Start-up Expenses	\$37,500
Start-up Assets	
Cash Required	\$75,000
Other Current Assets	\$10,500
Long-term Assets	\$27,000
Total Assets	\$112,500
Total Requirements	\$150,000

Table 15. Start-up Funding

<i>Start-up Funding</i>	
Start-up Expenses to Fund	\$37,500
Start-up Assets to Fund	\$112,500
Total Funding Required	\$150,500
Assets	
Non-cash Assets from Start-up	\$37,500
Cash Requirements from Start-up	\$150,000
Additional Cash Raised	\$0
Cash Balance on Starting Date	\$150,000
Liabilities and Capital	
Liabilities	
Current Borrowing	\$0
Long-term Liabilities	\$0
Accounts Payable (Outstanding Bills)	\$0
Other Current Liabilities (interest-free)	\$0
Total Liabilities	\$0
Capital	
Planned Investment	
Investor 1	\$50,000
Investor 2	\$50,000
Investor 3	\$50,000
Additional Investment Requirement	\$0
Total Planned Investment	\$150,000
Loss at Start-up (Start-up Expenses)	(\$37,500)
Total Capital	\$112,500
Total Capital and Liabilities	\$150,000
Total Funding	\$150,000

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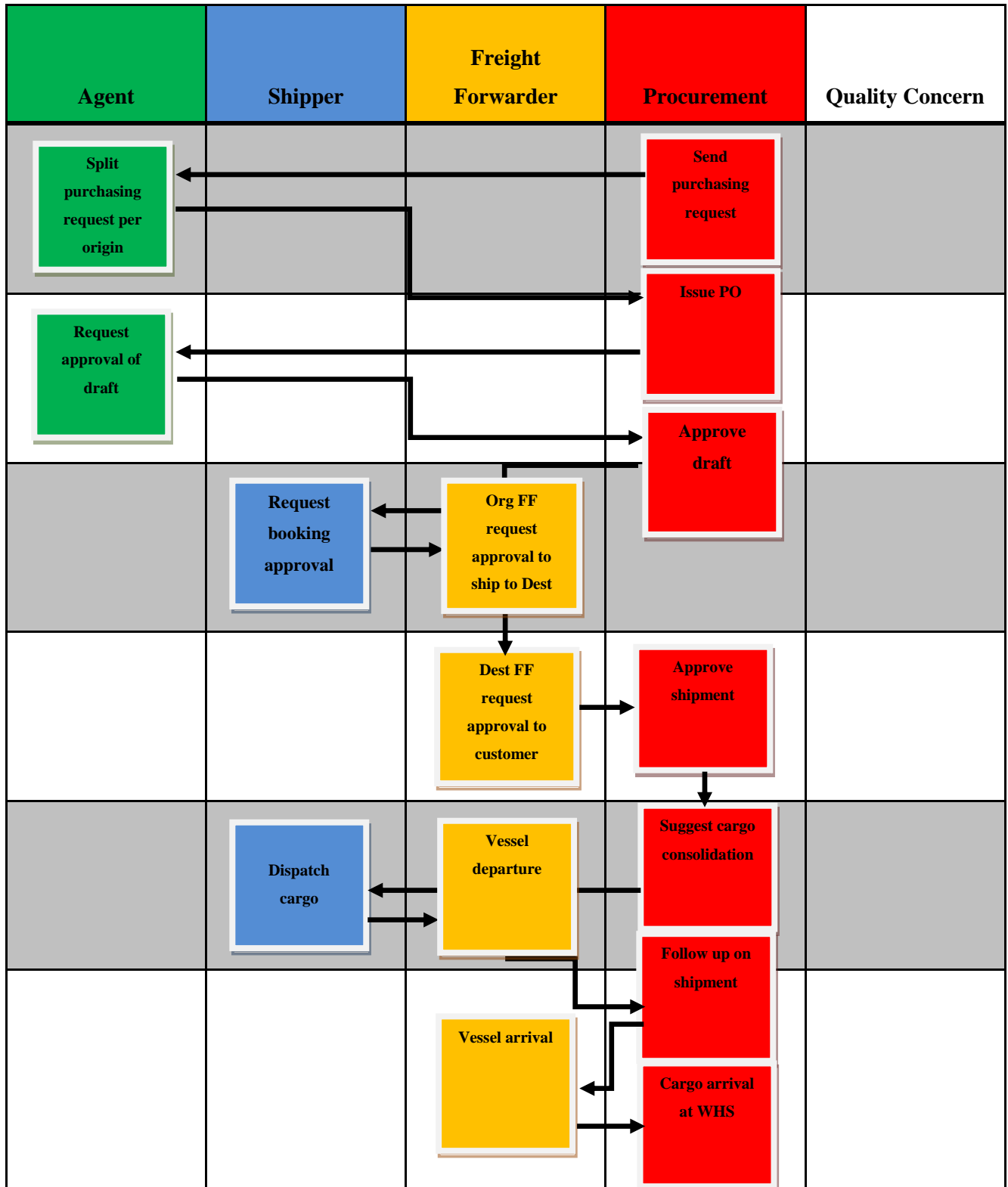
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10. Appendix

10.1 Retail Import Process

Table 16. Retail Import Process



In this process, four entities are involved, which are:

- ***Procurement Department:*** Person or group of persons in charge of the purchasing of goods for the retailer at destination.
- ***Agent:*** Person or group of persons representing a brand in origin. Is responsible of dealing with the factories.
- ***Shipper:*** Producer of the goods (factories).
- ***Freight Forwarder:*** Company responsible of transporting the goods.

The process starts when the procurement department issues a purchasing request and sends it to the agent. When the agent receives it, he splits it between the different factories that are going to produce the merchandise.

When the purchasing order is sent to the agent, he prepares a draft that is going to tell the company at destination of they can produce the whole order, or if there are limitations on the production of goods. The procurement department at destination can either accept or reject the draft sent by the agent, and once it is accepted, the shipper (producers of goods) set up a booking request with the origin freight forwarder, who immediately will request a booking with their destination representative. The destination freight forwarder would send the information to the procurement department who is going to be doing the follow up of the vessel departure and arrival at destination until they have the goods in their warehouse.

10.2 Instructions Manual Economic Zones Comparison Tool

The following manual explain how to use the Economic Zones Comparison Tool. It is divided by demand import spreadsheets, demand export spreadsheets, data spreadsheet, tool spreadsheet and tool graphic spreadsheet.

Demand Import Spreadsheets

There are four spreadsheets contained in this part: Demand Import Colon Free Zone, Demand Import Panama Pacifico, Demand Import Parque Sur and Demand Import Miami.

The demand volume (cbm) and weight (kg) and origins (Asia) was given by DAMCO at the beginning. DAMCO also give us the freight and trucking rates per cbm. There is a minimum charge included in the rates.

To calculate the demand in a five years scenario we assume a 5 % demand grow rate and apply it to the original demand each year.

<i>Port of Origin</i>	<i>Volume Yr 1 (cbm)</i>	<i>Weight Yr 1 (kg)</i>	<i>Volume Yr 2</i>	<i>Weight Yr 2</i>	<i>Volume Yr 3</i>	<i>Weight Yr 3</i>	<i>Volume Yr 4</i>	<i>Weight Yr 4</i>	<i>Volume Yr 5</i>	<i>Weight Yr 5</i>
CHITTAGONG	969.66	185,925.41	1,018.14	195,221.68	1,069.05	204,982.76	1,122.50	215,231.90	1,178.63	225,993.50
BEIJIAO	436.17	72,799.43	457.98	76,439.40	480.88	80,261.37	504.92	84,274.44	530.17	88,488.16
CHIWAN	124.56	11,442.50	130.79	12,014.63	137.33	12,615.36	144.19	13,246.12	151.40	13,908.43
CHONGQING	68.78	13,107.00	72.22	13,762.35	75.83	14,450.47	79.62	15,172.99	83.60	15,931.64
DA CHAN BAY	53.28	7,315.00	55.94	7,680.75	58.74	8,064.79	61.68	8,468.03	64.76	8,891.43

Table 17. Example of Origins.

Demand Import Colon Free Zone Panama Pacifico and Parque Sur

For Colon Free Zone, Panama Pacifico and Parque Sur we use the information from DAMCO to calculate the freight cost which in this case will be the same for each economic zone because we are assuming that everything arrives at the Atlantic ports. The freight cost is calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the DAMCO freight rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows the DAMCO rates from the origins to the Atlantic ports.

<i>Port of Origin</i>	<i>Price per cbm : Less than 5 cbm</i>	<i>Price per cbm: More than 5 cbm</i>
CHITTAGONG	\$177	\$167
BEIJIAO	\$208	\$198
CHIWAN	\$208	\$198
CHONGQING	\$208	\$198
DA CHAN BAY	\$208	\$198
DALIAN	\$182	\$172
FUZHOU	\$183	\$173
HUANGPU	\$127	\$117
NANJING	\$208	\$198
NINGBO	\$127	\$117
QINGDAO	\$142	\$132
RONGQI	\$208	\$198
SHANGHAI	\$77	\$67
SHANTOU	\$208	\$198
WUHAN	\$208	\$198
XIAMEN	\$127	\$117
XIAOLAN	\$208	\$198
XINGANG	\$187	\$177
YANTIAN	\$127	\$117
ZHONGSHAN	\$208	\$198
HONG KONG	\$77	\$67
JAKARTA	\$139	\$129
SEMARANG	\$189	\$179
SURABAYA	\$189	\$179
CHENNAI	\$173	\$163
JAWAHARLAL NEHRU	\$178	\$168
NEW DELHI	\$208	\$198
TUTICORIN	\$208	\$198
KOBE	\$131	\$121
NAGOYA	\$135	\$125
OSAKA	\$131	\$121
TOKYO	\$131	\$121
YOKOHAMA	\$131	\$121
PHNOM PENH	\$139	\$129
SIHANOUKVILLE	\$139	\$129
BUSAN	\$131	\$121
KWANGYANG	\$201	\$191
COLOMBO	\$178	\$168
PORT LOUIS	\$201	\$191
PASIR GUDANG\JOHOR	\$198	\$188
PENANG	\$198	\$188
PORT KLANG	\$182	\$172
TANJUNG PELEPAS	\$158	\$148
CEBU CITY	\$139	\$129
MANILA	\$139	\$129
PORT QASIM	\$173	\$163
BANGKOK	\$127	\$117
LAEM CHABANG	\$127	\$117
KAOHSIUNG	\$105	\$95
KEELUNG	\$105	\$95
TAICHUNG	\$105	\$95
TAO YUAN	\$127	\$117
BINH DUONG	\$127	\$117
HAIPHONG	\$127	\$117
HO CHI MINH CITY (SAIGON)	\$127	\$117

Table 18. Import Freight Rates

We are assuming that the product that is been transported is shoes (pair of sneakers) and its handing unit volume is 0.03 cbm.

To calculate the trucking cost, in this case will be the same for Panama Pacifico and Parque Sur but different for Colon Free Zone because Panama Pacifico and Parque Sur are in Panama City and Colon Free Zone is near the Atlantic ports . The trucking cost is the multiplication of the demand volume or demand weight, depending on which one is greater, by the DAMCO trucking rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows the DAMCO rates from the port to the warehouse located in each economic zone.

Conversion Factor from kg to ton	Kg	Ton
	1000	1
DAMCO Trucking Rates (per cbm)	Cost per cbm	Minimum charge
<i>From the Port to ColonFree Zone</i>	\$4.50	\$55.00
<i>From the Port to Panama City</i>	\$10.00	\$100.00
Minimum Amount of Cbm	5	

Table 19. Trucking Rates

Demand Import Miami

For Miami we use the rates information from the Maersk website to calculate the freight cost. Maersk rates were per TEU so we convert TEU to cbm dividing the amount by 55, which is approximately the amount of cbm in a TEU to left some space to close the door of the container properly.

The freight cost is calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the freight rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows Maersk rates from the Origins to Miami port.

We are assuming that the product that is been transported is shoes (pair of sneakers) and its handing unit volume is 0.03 cbm.

<i>Port of Origin</i>	<i>Cost per TEU</i>	<i>Cost per CBM</i>
CHITTAGONG	\$12,657	\$230
BEIJIAO	\$7,861	\$143
CHIWAN	\$7,835	\$142
CHONGQING	\$7,835	\$142
DA CHAN BAY	\$7,835	\$142
DALIAN	\$7,070	\$129
FUZHOU	\$7,088	\$129
HUANGPU	\$7,761	\$141
NANJING	\$7,419	\$135
NINGBO	\$7,038	\$128
QINGDAO	\$7,060	\$128
RONGQI	\$7,861	\$143
SHANGHAI	\$7,090	\$129
SHANTOU	\$7,421	\$135
WUHAN	\$7,555	\$137
XIAMEN	\$7,038	\$128
XIAOLAN	\$7,862	\$143
XINGANG	\$7,071	\$129
YANTIAN	\$7,151	\$130
ZHONGSHAN	\$7,836	\$142
HONG KONG	\$7,219	\$131
JAKARTA	\$7,204	\$131
SEMARANG	\$7,304	\$133
SURABAYA	\$7,304	\$133
CHENNAI	\$12,111	\$220
JAWAHARLAL NEHRU	\$10,922	\$199
NEW DELHI	\$12,368	\$225
TUTICORIN	\$12,380	\$225
KOBE	\$8,291	\$151
NAGOYA	\$8,525	\$155
OSAKA	\$8,239	\$150
TOKYO	\$8,114	\$148
YOKOHAMA	\$7,927	\$144
PHNOM PENH	\$7,543	\$137
SIHANOUKVILLE	\$7,523	\$137
BUSAN	\$6,969	\$127
KWANGYANG	\$6,962	\$127
COLOMBO	\$11,422	\$208
PORT LOUIS	\$9,101	\$165
PASIR GUDANG\,JOHOR	\$7,681	\$140
PENANG	\$7,681	\$140
PORT KLANG	\$7,181	\$131
TANJUNG PELEPAS	\$7,011	\$127
CEBU CITY	\$7,443	\$135
MANILA	\$7,343	\$134
PORT QASIM	\$13,518	\$246
BANGKOK	\$8,150	\$148
LAEM CHABANG	\$7,970	\$145
KAOHSIUNG	\$7,073	\$129
KEELUNG	\$7,248	\$132
TAICHUNG	\$7,173	\$130
TAO YUAN	\$7,223	\$131
BINH DUONG	\$7,343	\$134
HAIPHONG	\$7,343	\$134
HO CHI MINH CITY (SAIGON)	\$7,093	\$129

Table 20, Miami Import Freight Rates

To calculate the trucking cost, we use the trucking rates given by Dr. Bartholdi. The trucking cost is the multiplication of the demand volume or demand weight, depending on which one is greater, by the trucking rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

Volume /TEU	55	
Conversion Factor from kg to ton	Kg	Ton
	1000	1
Trucking Rates (per cbm)	Cost per cbm	
Import	\$4.27	
Export	\$4.27	

Table 21. Trucking Rates Miami

Introducing a new Economic Zone Demand Import

The following steps are needed to introduce a new economic zone:

1. Go to any of the Demand Import spreadsheets and create a copy. It is better if you choose the spreadsheet that has the same characteristics between the economic zones.
2. Change the name with the new economic zone.
3. You can change the demand freight rates or trucking rates depending if for the particular case they change.
4. The trucking rates are link to the formulas to calculate the trucking rates. If you change it in the table automatically will change it on the formula.
5. If you want to change the demand growth rate, there is a small table where you can change it and it will automatically change the demand for the five years scenario.

Projected Annual Growth	5.00%
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Table 22. Projected Annual Growth

Demand Export Spreadsheets

There are four spreadsheets contained in this part: Demand Export Colon Free Zone, Demand Export Panama Pacifico, Demand Export Parque Sur and Demand Export Miami.

The demand volume (cbm) and weight (kg) are the same as the demand import because we are assuming that demand import equals demand export. We divided the import demand between the export destinations by calculating the weights of each export destination depending on the population of the country. The destinations were given by DAMCO at the beginning and also they gave us the freight and trucking rates per cbm. There is a minimum charge included in the rates.

To calculate the demand in a five years scenario we assume a 5 % demand grow rate and apply it to the original demand each year.

Origin	Destination	Population	Percentage	Volume Yr 1	Weight Yr 1	Volume Yr 2	Weight Yr 2	Volume Yr 3	Weight Yr 3	Volume Yr 4	Weight Yr 4	Volume Yr 5
Panama, Manzanillo Port	Belize, Belice Port	333,200	0.20%	125.10	21,937.93	131.35	23,034.83	137.92	24,186.57	144.82	25,395.90	152.06
Panama, Balboa Port	Costa Rica, Caldera Port	4,301,712	2.55%	1,615.04	283,225.27	1,695.80	297,386.53	1,780.59	312,255.86	1,869.62	327,868.65	1,963.10
Panama, Balboa Port	El Salvador, Acajutla Port	6,134,000	3.64%	2,302.96	403,863.34	2,418.11	424,056.51	2,539.02	445,259.34	2,665.97	467,522.30	2,799.27
Panama, Balboa Port	Guatemala, Quetzal Port	13,824,463	8.20%	5,190.29	910,204.41	5,449.80	955,714.63	5,722.29	1,003,500.36	6,008.41	1,053,675.38	6,308.83
Panama, Manzanillo Port	Honduras, Cortes Port	8,249,574	4.89%	3,097.24	543,153.01	3,252.10	570,310.66	3,414.71	598,826.19	3,585.44	628,767.50	3,764.71
Panama, Balboa Port	Nicaragua, Corinto Port	5,891,199	3.49%	2,211.81	387,877.30	2,322.40	407,271.16	2,438.52	427,634.72	2,560.44	449,016.45	2,688.46
Panama, Manzanillo Port	Republica Dominicana, Caucedo Port	9,378,818	5.56%	3,521.21	617,502.58	3,697.27	648,377.71	3,882.13	680,796.59	4,076.24	714,836.42	4,280.05
Panama, Manzanillo Port	Trinidad y Tobago, Point Lisas	1,227,505	0.73%	460.86	80,819.09	483.90	84,860.04	508.10	89,103.04	533.50	93,558.19	560.17
Panama, Manzanillo Port	Puerto Rico, San Juan Port	1,227,505	0.73%	460.86	80,819.09	483.90	84,860.04	508.10	89,103.04	533.50	93,558.19	560.17
Panama, Balboa Port	Ecuador, Guayaquil Port	15,007,343	8.90%	5,634.39	988,085.38	5,916.11	1,037,489.65	6,211.92	1,089,364.13	6,522.51	1,143,832.34	6,848.64
Panama, Balboa Port	Peru, Callao Port	29,496,000	17.50%	11,074.05	1,942,020.41	11,627.75	2,039,121.43	12,209.14	2,141,077.51	12,819.59	2,248,131.38	13,460.57
Panama, Manzanillo Port	Colombia, Cartagena Port	46,366,364	27.50%	17,407.90	3,052,767.34	18,278.29	3,205,405.70	19,192.20	3,365,675.99	20,151.81	3,533,959.79	21,159.41
Panama, Manzanillo Port	Venezuela, Cabello Port	27,150,095.00	16.10%	10,193.29	1,787,565.73	10,702.96	1,876,944.01	11,238.11	1,970,791.22	11,800.01	2,069,330.78	12,390.01

Table 23. Example of Destinations

The table above shows the port of origin, destinations, population, percentage weight, demand volume, demand weight and the demand for the five years scenario

Demand Export Colon Free Zone Panama Pacifico and Parque Sur

For Colon Free Zone, Panama Pacifico and Parque Sur we use the information from DAMCO to calculate the freight cost which in this case will be the same for each economic zone because we are assuming that everything goes to the same destinations. The freight cost calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the DAMCO freight rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows the DAMCO rates from the Economic Zone to the Atlantic or Pacific ports.

<i>Origin</i>	<i>Destination</i>	<i>Less than 5 cbm</i>	<i>More than 5 cbm</i>
Panama, Manzanillo Port	Belize, Belice Port	\$55	\$52
Panama, Balboa Port	Costa Rica, Caldera Port	\$40	\$37
Panama, Balboa Port	El Salvador, Acajutla Port	\$55	\$52
Panama, Balboa Port	Guatemala, Quetzal Port	\$55	\$52
Panama, Manzanillo Port	Honduras, Cortes Port	\$55	\$52
Panama, Balboa Port	Nicaragua, Corinto Port	\$55	\$52
Panama, Manzanillo Port	Republica Dominicana, Caucedo Port	\$45	\$42
Panama, Manzanillo Port	Trinidad y Tobago, Point Lisas	\$60	\$55
Panama, Manzanillo Port	Puerto Rico, San Juan Port	\$45	\$42
Panama, Balboa Port	Ecuador, Guayaquil Port	\$60	\$65
Panama, Balboa Port	Peru, Callao Port	\$60	\$65
Panama, Manzanillo Port	Colombia, Cartagena Port	\$30	\$27
Panama, Manzanillo Port	Venezuela, Cabello Port	\$40	\$37

Table 24. Export Freight Rates

To calculate the trucking cost, in this case will be the same for Panama Pacifico and Parque Sur but different for Colon Free Zone. Panama Pacifico equals Parque Sur because right now the charge to the pacific ports is the same as the charge to the Atlantic ports even when it is near to the Pacific costs because the America's bridge has a restriction of weight so right now the cargo the cargo that came from Panama Pacifico can't use the bridge. The charge from Panama Pacifico to the Pacific ports is the same as to the Atlantic Ports.

The trucking cost is calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the DAMCO trucking rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows the DAMCO rates from the port to the warehouse.

Table 25. Trucking Rates

<i>Conversion Factor from kg to ton</i>	<i>Kg</i>	<i>Ton</i>
	1000	1
<i>DAMCO Trucking Rates (per cbm)</i>	<i>Cost per cbm</i>	<i>Minimum charge</i>
<i>From the Port to ColonFree Zone</i>	\$4.50	\$55.00
<i>From the Port to Panama City</i>	\$10.00	\$100.00
<i>Minimum Amount of Cbm</i>	5	

Demand Export Miami

For Miami we use the same demand as the previous three economic zones and the rates information from the Maersk website to calculate the freight cost. Maersk rates were per TEU so we convert TEU to cbm dividing the amount by 55, which is approximately the amount of cbm in a TEU to left some space to close the door of the container properly.

The freight cost is calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the freight rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

The following table shows Maersk rates from the Miami to the destinations port.

<i>Origin</i>	<i>Destination</i>	<i>Cost per TEU</i>	<i>Price per Cbm</i>
Miami,FL, USA	Belize, Belice Port	\$2,140.00	\$39
Miami,FL, USA	Costa Rica, Caldera Port	\$3,127.00	\$57
Miami,FL, USA	El Salvador, Acajutla Port	\$2,945.00	\$54
Miami,FL, USA	Guatemala, Quetzal Port	\$3,180.00	\$58
Miami,FL, USA	Honduras, Cortes Port	\$2,140.00	\$39
Miami,FL, USA	Nicaragua, Corinto Port	\$3,640.00	\$66
Miami,FL, USA	Republica Dominicana, Caucedo Port	\$3,297.00	\$60
Miami,FL, USA	Trinidad y Tobago, Point Lisas	\$1,782.00	\$32
Miami,FL, USA	Puerto Rico, San Juan Port	\$3,200.00	\$58
Miami,FL, USA	Ecuador, Guayaquil Port	\$3,271.00	\$59
Miami,FL, USA	Peru, Callao Port	\$3,192.00	\$58
Miami,FL, USA	Colombia, Cartagena Port	\$2,682.00	\$49
Miami,FL, USA	Venezuela, Cabello Port	\$3,622.00	\$66

Table 26. Miami Export Freight Rates

We are assuming that the product that is been transported is shoes (pair of sneakers) and its handing unit volume is 0.03 cbm.

To calculate the trucking cost, we use the trucking rates given by Dr. Bartholdi. The trucking cost is calculated by multiplying the demand volume or demand weight, depending on which one is greater, by the trucking rates. The demand weight has to be converting to ton in order to balance the formula; 1 ton equals 1 cbm.

Volume /TEU	55	
Conversion Factor from kg to ton	Kg	Ton
	1000	1
Trucking Rates (per cbm)	Cost per cbm	
Import	\$4.27	
Export	\$4.27	

Table 27. Miami Trucking Rates

Introducing a new Economic Zone Demand Export

The following steps are needed to introduce a new economic zone:

1. Go to any of the Demand Export spreadsheets and create a copy. It is better if you choose the spreadsheet that has the same characteristics between the economic zones.
2. Change the name with the new economic zone.
3. You can change the demand freight rates or trucking rates depending if for the particular case they change.
4. The trucking rates are link to the formulas to calculate the trucking costs. If you change it in the table automatically will change it on the formula.
5. If you want to change the demand growth rate, there is a small table where you can change it and it will automatically change the demand for the five years scenario.
6. If you want to change the destinations, remember that the costs depend from which port, Atlantic or Pacific, you are exporting. Check the formulas before change it.

Projected Annual Growth	5.00%
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Table 28. Projected Annual Growth

Data Spreadsheet

The data spreadsheet contains all the information that feed the pivot table in which the user sees the results of the comparison.

There are three types of tables in this part: the information tables, the data table and the revenue table.

The information tables are 6 different tables that contain general information and specific information for each economic zone. This information is needed to feed the data table.

The following table has all the standard assumptions for all the economic zones that we need to calculate costs for the data table

Standard Assumptions	
	Amount
Minimum Salary (per worker)	\$500.00
Days a year	365
Time in months	12
Amounts of weeks in a month	4
Type of Economic Zone	Free Zone
	No Free Zone
Type of Operation	Users
	Represented
	Public Storage
	Not Apply
Frequency	Once a week
	Twice a week
	Once a month
	Twice a month
Damco Handling Charge (per shipment)	\$26.75
Average Import Shipments per year	3264
Average Export Shipments per year	3264
Annual Tax	1%

Table 29. General Information Table

The next table shows the information of the product that we are assuming to calculate the revenue.

Handling Unit Volume (cbm)	Cost to consumer (1 unit)	Cost to company (1 unit)
0.03	\$75.00	\$35.50

Table 30. Product Information

The next table is an example of the specific table of each economic zone. To see the other ones go to the Data spreadsheet in the Tool excel document.

Information Table Panamá Pacífico		
Cost of Company Registry m2		
Range m2 up to	100	\$1,000.00
Range m2 up to	500	\$1,500.00
Range m2 up to	1000	\$2,000.00
m2 Greater or equal than	1001	\$3,000.00
Cargo entrance (per shipment)		\$150.00
Rental Cost per m2 Warehouse		\$8.75
Insurance per m2		\$0.07
Maintenance Cost per m2		\$0.26
Transportation Management per m2		\$0.20
Property Management per m2		\$0.26
Forms and Printing (per transaction)		\$10.00

Table 31. Specific Information Table

The data table contains the information to feed the pivot table in the template that shows the results.

The table is an ordered data table that contains five columns; year, economic zone, type of costs, costs, and amount. It contains all the final costs for each economic zone.

The column year is needed to make the difference in costs during the five years scenario. The column economic zone is to specify which economic zone we are calculating. The column type of costs is to be able to see the amounts by the type of costs not just the total. The column costs are the name of the costs that each economic zone charges. Finally the column amount contains the formulas link with demand spreadsheets information and with the information tables to calculate the costs.

Table 32. Example of one economic zone area

Year	Economic Zone	Type of Cost	Cost	Amount
1	Miami	EC	Warehouse Rental Cost	\$321,000.00
1	Miami	EC	Commercial Office Rental Cost	\$86,000.00
1	Miami	EC	Security Fee Warehouse	\$10,000.00
1	Miami	OC	Forms and Printing Export	\$114,240.00
1	Miami	OC	Forms and Printing Import	\$81,600.00
1	Miami	OC	Import Ocean Freight Cost	\$8,586,015.70
1	Miami	OC	Export Ocean Freight Cost	\$3,537,750.99
1	Miami	OC	Trucking Cost Import	\$270,269.59
1	Miami	OC	Trucking Cost Export	\$270,269.59
1	Miami	OC	Holding Cost	\$63,900.00
1	Miami	OC	Warehouse Ligth and Water Billings	\$60,000.00
1	Miami	OC	Labor Costs	\$2,944,800.00
1	Miami	TX	Real Property Tax	\$488,000.00
2	Miami	EC	Warehouse Rental Cost	\$321,000.00
2	Miami	EC	Commercial Office Rental Cost	\$86,000.00
2	Miami	EC	Security Fee Warehouse	\$10,000.00
2	Miami	OC	Forms and Printing Export	\$114,240.00
2	Miami	OC	Forms and Printing Import	\$81,600.00
2	Miami	OC	Import Ocean Freight Cost	\$9,015,316.49
2	Miami	OC	Export Ocean Freight Cost	\$3,714,638.54
2	Miami	OC	Trucking Cost Import	\$283,783.07
2	Miami	OC	Trucking Cost Export	\$283,783.07
2	Miami	OC	Holding Cost	\$63,900.00
2	Miami	OC	Warehouse Ligth and Water Billings	\$60,000.00
2	Miami	OC	Labor Costs	\$2,944,800.00
2	Miami	TX	Real Property Tax	\$488,000.00
3	Miami	EC	Warehouse Rental Cost	\$321,000.00
3	Miami	EC	Commercial Office Rental Cost	\$86,000.00
3	Miami	EC	Security Fee Warehouse	\$10,000.00
3	Miami	OC	Forms and Printing Export	\$114,240.00
3	Miami	OC	Forms and Printing Import	\$81,600.00
3	Miami	OC	Import Ocean Freight Cost	\$9,466,082.31
3	Miami	OC	Export Ocean Freight Cost	\$3,714,638.54
3	Miami	OC	Trucking Cost Import	\$297,972.22
3	Miami	OC	Trucking Cost Export	\$297,972.22
3	Miami	OC	Holding Cost	\$63,900.00
3	Miami	OC	Warehouse Ligth and Water Billings	\$60,000.00
3	Miami	OC	Labor Costs	\$2,944,800.00
3	Miami	TX	Real Property Tax	\$488,000.00
4	Miami	EC	Warehouse Rental Cost	\$321,000.00
4	Miami	EC	Commercial Office Rental Cost	\$86,000.00
4	Miami	EC	Security Fee Warehouse	\$10,000.00
4	Miami	OC	Forms and Printing Export	\$114,240.00
4	Miami	OC	Forms and Printing Import	\$81,600.00
4	Miami	OC	Import Ocean Freight Cost	\$9,939,386.43
4	Miami	OC	Export Ocean Freight Cost	\$4,095,388.99
4	Miami	OC	Trucking Cost Import	\$312,870.83
4	Miami	OC	Trucking Cost Export	\$312,870.83
4	Miami	OC	Holding Cost	\$63,900.00
4	Miami	OC	Warehouse Ligth and Water Billings	\$60,000.00
4	Miami	OC	Labor Costs	\$2,944,800.00
4	Miami	TX	Real Property Tax	\$488,000.00
5	Miami	EC	Warehouse Rental Cost	\$321,000.00
5	Miami	EC	Commercial Office Rental Cost	\$86,000.00
5	Miami	OC	Security Fee Warehouse	\$10,000.00
5	Miami	OC	Forms and Printing Export	\$114,240.00
5	Miami	OC	Forms and Printing Import	\$81,600.00
5	Miami	OC	Import Ocean Freight Cost	\$10,436,355.75
5	Miami	OC	Export Ocean Freight Cost	\$4,300,158.44
5	Miami	OC	Trucking Cost Import	\$328,514.38
5	Miami	OC	Trucking Cost Export	\$328,514.38
5	Miami	OC	Holding Cost	\$63,900.00
5	Miami	OC	Warehouse Ligth and Water Billings	\$60,000.00
5	Miami	OC	Labor Costs	\$2,944,800.00
5	Miami	TX	Real Property Tax	\$488,000.00

The revenue table contains the information of the revenue of each economic zone.

The revenue is calculated using the information of demand divided by the handling unit of one pair of shoes (pair of sneakers) and multiply it by the sales price (cost to consumer).

<i>Handling Unit Volume (cbm)</i>	<i>Cost to consumer (1 unit)</i>	<i>Cost to company (1 unit)</i>
0.03	\$75.00	\$35.50

Table 33. Product Information

After we calculate the revenue we deduct the total cost from it to obtain the Earning before taxes (EBIT). Then we apply the taxes depending on the economic zone to obtain the Net Income.

The following table shows the revenue for each economic zone.

Year	Economic Zone	Revenue	Total Cost	EBIT	Taxes	Net Income
1	Colon Free Zone	\$148,347,623.44	\$13,001,461.11	\$135,346,162.33	\$8,120,769.74	\$127,225,392.59
2	Colon Free Zone	\$155,765,004.61	\$13,468,900.41	\$142,296,104.20	\$8,537,766.25	\$133,758,337.95
3	Colon Free Zone	\$163,553,254.84	\$14,020,250.08	\$149,533,004.76	\$8,971,980.29	\$140,561,024.48
4	Colon Free Zone	\$171,730,917.58	\$14,599,167.23	\$157,131,750.35	\$9,427,905.02	\$147,703,845.33
5	Colon Free Zone	\$180,317,463.46	\$15,207,030.24	\$165,110,433.22	\$9,906,625.99	\$155,203,807.23
1	Panama Pacifico	\$148,347,623.44	\$13,818,123.16	\$134,529,500.28	\$1,345,295.00	\$133,184,205.27
2	Panama Pacifico	\$155,765,004.61	\$14,317,724.31	\$141,447,280.30	\$1,414,472.80	\$140,032,807.50
3	Panama Pacifico	\$163,553,254.84	\$14,952,763.24	\$148,600,491.60	\$1,486,004.92	\$147,114,486.69
4	Panama Pacifico	\$171,730,917.58	\$15,564,326.80	\$156,166,590.78	\$1,561,665.91	\$154,604,924.87
5	Panama Pacifico	\$180,317,463.46	\$16,206,468.54	\$164,110,994.92	\$1,641,109.95	\$162,469,884.97
1	Parque Sur	\$148,347,623.44	\$13,512,803.16	\$134,834,820.28	\$10,967,823.62	\$123,866,996.65
2	Parque Sur	\$155,765,004.61	\$13,989,404.31	\$141,775,600.30	\$11,518,205.20	\$130,257,395.10
3	Parque Sur	\$163,553,254.84	\$14,624,443.24	\$148,928,811.60	\$12,094,759.77	\$136,834,051.83
4	Parque Sur	\$171,730,917.58	\$15,236,006.80	\$156,494,910.78	\$12,700,694.34	\$143,794,216.44
5	Parque Sur	\$180,317,463.46	\$15,878,148.54	\$164,439,314.92	\$13,336,925.65	\$151,102,389.27
1	Miami	\$148,347,623.44	\$13,401,045.88	\$134,946,577.56	\$488,000.00	\$134,458,577.56
2	Miami	\$155,765,004.61	\$16,979,061.17	\$138,785,943.44	\$488,000.00	\$138,297,943.44
3	Miami	\$163,553,254.84	\$17,458,205.30	\$146,095,049.54	\$488,000.00	\$145,607,049.54
4	Miami	\$171,730,917.58	\$18,342,057.09	\$153,388,860.49	\$488,000.00	\$152,900,860.49
5	Miami	\$180,317,463.46	\$19,075,082.94	\$161,242,380.52	\$488,000.00	\$160,754,380.52

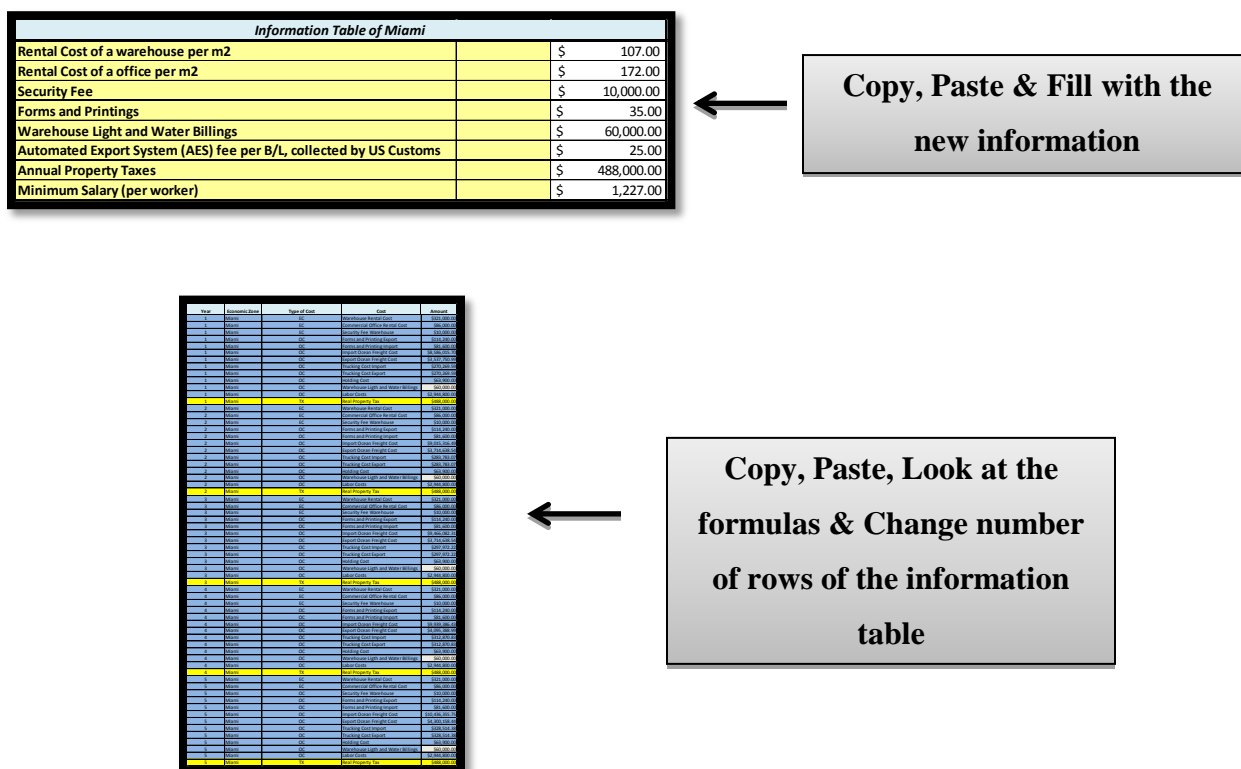
Table 34. Revenue

Introducing a new Economic Zone Data

The following steps are needed to introduce a new economic zone:

1. Copy one of the information tables from one economic zone and paste it at the end of the information tables.
2. Fill the information for the new economic zone table.
3. Copy the entire data table from a particular economic zone and paste it at the end.
4. Look at the formulas and change the number of the row depending on in which row is now the charge coming from the information table. Do this for all the costs in the table.
5. Add the new economic zone to the revenue table by adding the name, total costs and taxes. The other columns just need to drag the formulas.
6. Go to the Tool spreadsheet and update the data selection adding the rows that have been included in the Data spreadsheet. Do the same for the Revenue pivot table.

Figure 24. Visual Instructions



Year	Economic Zone	Revenue	Total Cost	EBIT	Taxes	Net Income
1	Colon Free Zone	\$148,347,623.44	\$13,001,461.11	\$135,346,162.33	\$8,120,769.74	\$127,225,392.59
2	Colon Free Zone	\$155,765,004.61	\$13,468,900.41	\$142,296,104.20	\$8,537,766.25	\$133,758,337.95
3	Colon Free Zone	\$163,553,254.84	\$14,020,250.08	\$149,533,004.76	\$8,971,980.29	\$140,561,024.48
4	Colon Free Zone	\$171,730,917.58	\$14,599,167.23	\$157,131,750.35	\$9,427,905.02	\$147,703,845.33
5	Colon Free Zone	\$180,317,463.46	\$15,207,030.24	\$165,110,433.22	\$9,906,625.99	\$155,203,807.23
1	Panama Pacifico	\$148,347,623.44	\$13,818,123.16	\$134,529,500.28	\$1,345,295.00	\$133,184,205.27
2	Panama Pacifico	\$155,765,004.61	\$14,317,724.31	\$141,447,280.30	\$1,414,472.80	\$140,032,807.50
3	Panama Pacifico	\$163,553,254.84	\$14,952,763.24	\$148,600,491.60	\$1,486,004.92	\$147,114,486.69
4	Panama Pacifico	\$171,730,917.58	\$15,564,326.80	\$156,166,590.78	\$1,561,665.91	\$154,604,924.87
5	Panama Pacifico	\$180,317,463.46	\$16,206,468.54	\$164,110,994.92	\$1,641,109.95	\$162,469,884.97
1	Parque Sur	\$148,347,623.44	\$13,512,803.16	\$134,834,820.28	\$10,967,823.62	\$123,866,996.65
2	Parque Sur	\$155,765,004.61	\$13,989,404.31	\$141,775,600.30	\$11,518,205.20	\$130,257,395.10
3	Parque Sur	\$163,553,254.84	\$14,624,443.24	\$148,928,811.60	\$12,094,759.77	\$136,834,051.83
4	Parque Sur	\$171,730,917.58	\$15,236,006.80	\$156,494,910.78	\$12,700,694.34	\$143,794,216.44
5	Parque Sur	\$180,317,463.46	\$15,878,148.54	\$164,439,314.92	\$13,336,925.65	\$151,102,389.27
1	Miami	\$148,347,623.44	\$13,401,045.88	\$134,946,577.56	\$488,000.00	\$134,458,577.56
2	Miami	\$155,765,004.61	\$16,979,061.17	\$138,785,943.44	\$488,000.00	\$138,297,943.44
3	Miami	\$163,553,254.84	\$17,458,205.30	\$146,095,049.54	\$488,000.00	\$145,607,049.54
4	Miami	\$171,730,917.58	\$18,342,057.09	\$153,388,860.49	\$488,000.00	\$152,900,860.49
5	Miami	\$180,317,463.46	\$19,075,082.94	\$161,242,380.52	\$488,000.00	\$160,754,380.52

Add new economic zone, total cost & taxes. Drag the rest of the columns.

Tool Spreadsheet

The tool spreadsheet contains the template design of the tool and it shows two main tables; the parameters that are inputs from the investors and the pivot table that shows all the costs for all the economic zones during the 5 years. There is a third pivot table that shows the revenue from each economic zone.

In this spreadsheet after introducing the parameters, the user has to refresh both pivot tables to obtain the updated result.

Input	
Parameters	
Type of Products	Shoes
Type of Economic Zone	Free Zone
Holding Cost Rate (8-15%)	15%
Average Inventory	12,000.00
Handling Unit Volume (cbm)	0.03
Unit Value (\$)	\$35.50
Cost of product to consumer (1 unit)	\$75.00
Day of Inventory	30
Demand Growth Rate	5%
Frequency Import Shipments	Once a week
Import Shipments	68
Frequency Export Shipments	Once a week
Export Shipments	68
Commercial Offices Square Meters	500.00
Warehouse Square meters	3,000.00
Number of Employees	200.00
Type of Operation	Represented
Location of the Commercial Office	Coco Solo
Location of the Warehouse	Coco Solito

Year	1				
Type of Cost	TX				
Amounts	Economic Zones				
Costs	Colon Free Zone	Panama Pacifico	Parque Sur	Miami	Total
Import/Export Taxes	\$0.00	\$0.00	\$3,894,524.46		\$3,894,524.46
Real Property Tax		\$0.00		\$488,000.00	\$488,000.00
Annual Tax (1%)	\$1,353,461.62	\$1,345,295.00	\$1,348,348.20		\$4,047,104.83
Income Statement Tax (2%)	\$2,706,923.25				\$2,706,923.25
Income Distribution (3%)	\$4,060,384.87				\$4,060,384.87
ITBMS			\$5,724,950.96		\$5,724,950.96
Total	\$8,120,769.74	\$1,345,295.00	\$10,967,823.62	\$488,000.00	\$20,921,888.37

Net Income Amount	Economic Zones				
Years	Colon Free Zone	Panama Pacifico	Parque Sur	Miami	Total
1	\$127,225,392.59	\$133,184,205.27	\$123,866,996.65	\$134,458,577.56	\$518,735,172.07
2	\$133,758,337.95	\$140,032,807.50	\$130,257,395.10	\$138,297,943.44	\$542,346,483.99
3	\$140,561,024.48	\$147,114,486.69	\$136,834,051.83	\$145,607,049.54	\$570,116,612.54
4	\$147,703,845.33	\$154,604,924.87	\$143,794,216.44	\$152,900,860.49	\$599,003,847.14
5	\$155,203,807.23	\$162,469,884.97	\$151,102,389.27	\$160,754,380.52	\$629,530,461.99
Total	\$704,452,407.57	\$737,406,309.30	\$685,855,049.30	\$732,018,811.55	\$2,859,732,577.73

Figure 25. Images of Parameters and Pivots Tables

Tool Graphic Spreadsheet

This spreadsheet shows a dynamic graphic from the pivot table where you can see graphics for every type of costs of each economic zone.

10.3 Industry Visits

Figure 26. Payless Shoes Warehouse



Panama Pacifico



Figure 27. Panama Pacifico Images

Figure 28. Panama Pacifico Images



Parque Sur

Figure 29. Parque Sur Images



Figure 30. Parque Sur Images





Figure 31. Parque Sur Images

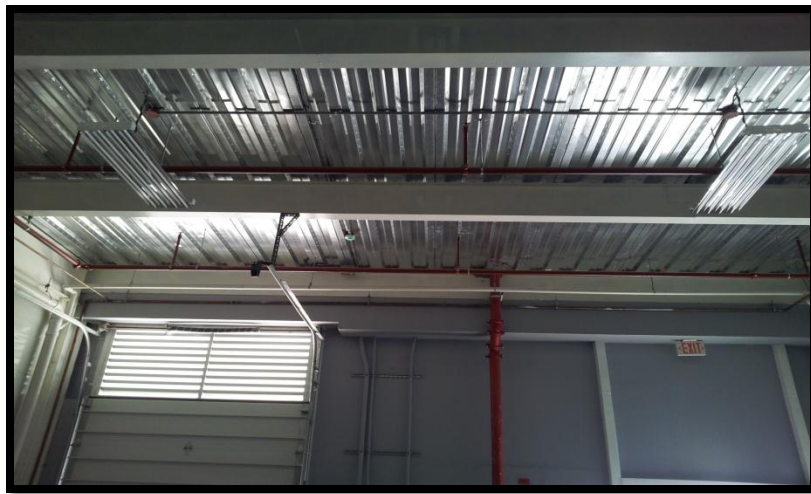


Figure 32. Parque Sur Images

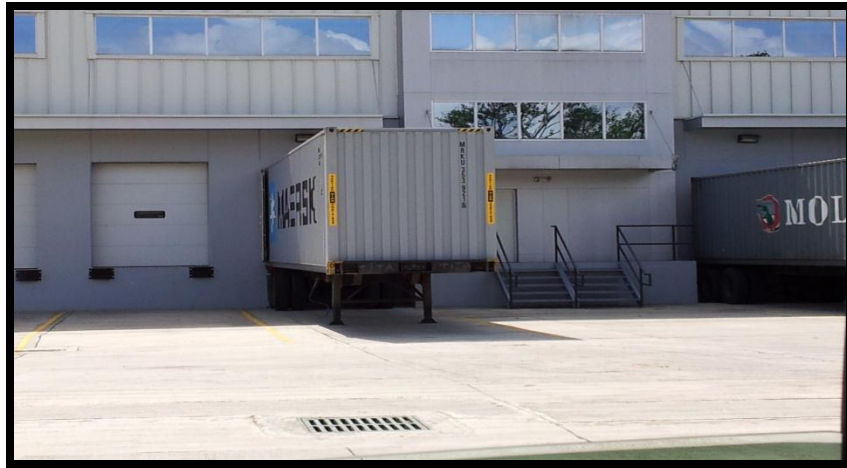


Figure 33. Parque Sur Images

Colon Free Zone

Figure 34. Colon Free Zone Images

