UNIVERSIDAD DE LIMA
FACULTAD DE CIENCIAS EMPRESARIALES Y ECONÓMICAS
CARRERA DE NEGOCIOS INTERNACIONALES
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INTERNATIONAL LOGISTICS I: CUADERNO DE TRABAJO

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1. INTRODUCTION

An important aspect in the success of international logistics operations involves the safe transportation and the lowest cost of the merchandise at the destination point. In this context, it is necessary to highlight the relationship between packages and packaging, the modes of transport to be used and the requirements and characteristics of the merchandise of each logistics chain.

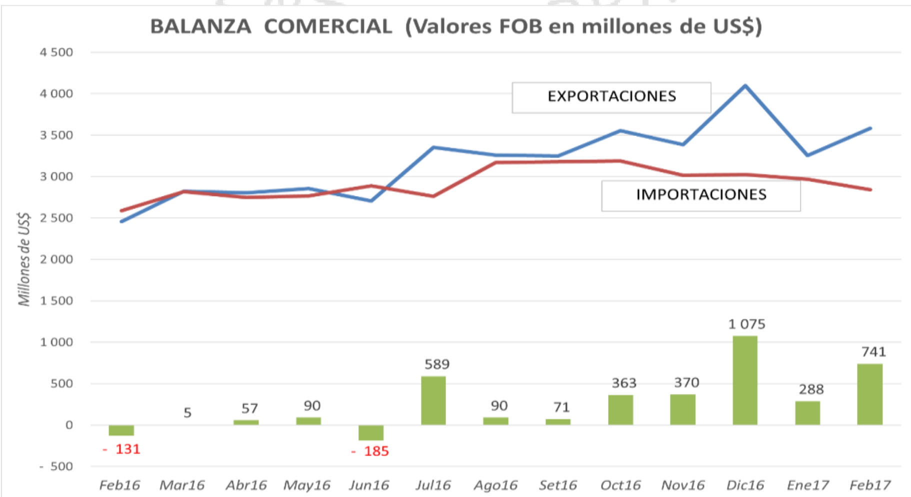
In the preparation of the goods for the international logistics chain all these elements must be taken into account, through this process different procedures rise and must be adapted to the requirements of the logistics chain in question. In this International Logistics workbook main topics are reviewed and also numerical exercises are solved to help students to have more clear the concepts of logistics costs.

2. THE IMPORTANCE OF THE FLOW OF MATERIALS

Logistics is defined as “the art and science of obtaining, producing, and distributing material and product in the proper place and in proper quantities.” Explain in your own words this definition.

3. THE BALANCE OF TRADE

Is a part of a country's balance of payments. This balance only includes imports and exports of goods; it does not include the provision of services between countries, nor the



investment or movement of capital. The balance of trade is the result of subtracting the imports to the exports.

In December 2016, the Peruvian Balance of Trade recorded a surplus of US $ 1,075 million, a positive result for the sixth consecutive month.

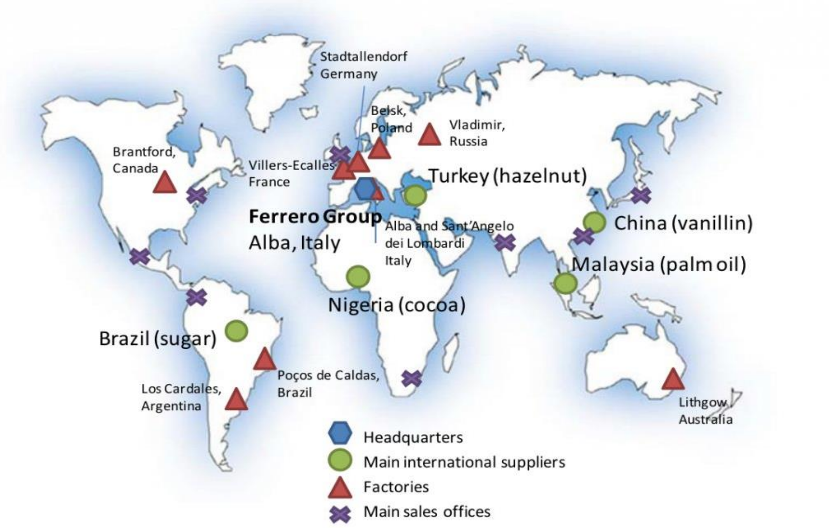
Explain the main reason for this surplus and detail the three main products that helped this result.

4. NUTELLA CASE

Each year, 250000 tons of Nutella are sold in 75 countries. Though Ferrero International SA, the company that produces the spread, is based in Italy, they have nine global factories: five in Europe, one in Russia, one in North America, two in South America, and one in Australia. The hazelnuts come from Turkey, cocoa from Nigeria, palm oil from Malaysia, sugar mainly from Brazil (but also from Europe) and the vanilla flavour from China.

In 2011, the Ferrero Group announced that it has entered an alliance with The Hershey Company in the US and Canada to improve supply chain processes through a joint warehousing and transportation initiative.

Figure 6. The Nutella® global value chain



This alliance pertains only to Supply Chain processes. It does not involve manufacturing, selling or marketing activities. The goal is to enable both companies to service its customers in a more efficient and sustainable way, for example, through shared warehousing facilities and transport.

As an additional information, the label states that Nutella does not need to be refrigerated. This is because the large quantity of sugar in the product acts as a preservative to prevent the growth of microorganisms. In fact, refrigeration causes Nutella to harden because it contains fats from the hazelnuts. When nut fats are placed in cold temperatures, they become too hard to spread.

A **<u>Logistics Strategy has four objectives</u>**. Explain how Nutella is committed to each one of these objectives.

i)   ii)   iii)   iv)

One of Nutella´s goals is to achieve an **<u>optimal balance in its Logistics network</u>**. Based on the information of the case, give and explain two reasons for this balance.

i)

ii)

Considering the market mix and Nutella´s package and packaging, indicate one characteristic of each “P”.

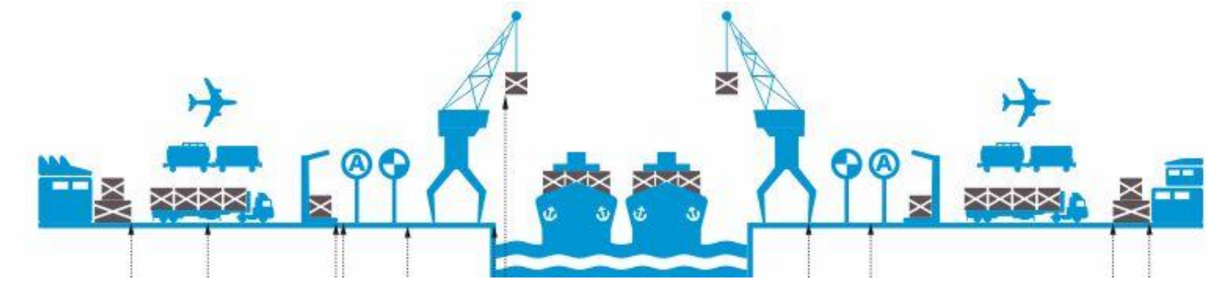
	Price	**Promotion**	**Place**	**Product**
Characteristics of the package or packaging				

5. <u>UNILEVER CASE</u>

Unilever is a Multinational company, which provides a variety of products. Look for information and explain the Supply Chain Strategy that Unilever has as a multi-brand company, the Logistics Strategy and the Transport Strategy.

6. INCOTERMS

Indicate the corresponding incoterm in the blank space and place the letter on the diagram:



A. Delivery is completed at the seller´s works, prior to loading on the truck, not cleared for export. ____________
B. Delivery occurs at the origin port alongside the vessel, cleared for export, prior to loading. All transport/customs costs beyond this point are for the account of the buyer. ______________
C. Seller is responsible for risk of loss or damage and transportation up to the named place at destination, including customs clearance, duties, taxes and IGV/VAT. ________________
D. Seller pays for transport up to the named port at destination and provides minimum cover insurance. _______________
E. Seller is responsible for risk of loss and damage and transportation up to a named terminal at a port or place at destination, off-loaded. ______________

7. INCOTERMS EXERCISES

INCOTERMS 2010 were written:

A. under the direction of the World Trade Organization
B. under “trade promotion authority" granted by the U.S. Congress
C. by a combination of ASEAN, NAFTA, and EU members
D. by the International Chamber of Commerce

Incoterms are listed on all the following documents except:

A. Commercial invoice
B. Proforma invoice
C. Letter of credit
D. All the above

What are Incoterms 2010? Select the appropriate answer from the following:

A. The law relating the international carriage of goods.
B. A set of internationally recognised contract terms that define buyer/sellers' responsibilities when included in international contracts.
C. A shorthand used by the freight industry for indicating whether the buyer or seller pays for freight costs during the shipment of goods.
D. A set of contract terms indicating where the title to the goods passes in international shipments.

The seller pays all expenses to leave the goods at the agreed point in the country. The buyer does not perform any processing. The import customs charges are borne by the seller. The type of transports multipurpose/multimodal. → DDP (Delivered Duty Paid)

A. True
B. False
C.

Exercise 1. The company ELMYCS PERU SAC requires to export a container of electric cables, with the buyer CABLES GENERALES in Guayaquil, Ecuador. The cost is U.S. $ 278,800 (FOB) in the port city of Callao, Lima, Peru. It will target the port of Guayaquil, Ecuador. In addition, we have the following information:

Maritime Freight Callao (Perú)-Guayaquil (Ecuador)	:	US$ 550
Insurance	:	1.7% FOB value
Arancel in Guayaquil	:	11% CIF value
Customs Costs in Guayaquil	:	0.3% CIF value
Inspection in destination port	:	1.0% FOB value
Stowage and Handling destination dock	:	US$ 650
Inland freight Guayaquil (Aduana-planta)	:	US$ 450

Calculate de CIF and DDP Value.

Exercise 2. ABC SAC is a company located in Ilo, 1200Km south from Callao, Lima. The company is going to export to USA 40,000 pullovers of denim to Los Angeles. The cost of each good is US$3.50 (EXW value).

In addition, we have the following information:

Inland freight Ilo - Callao	:	US$1.0 per Km
Land insurance in origin	:	0.40% EXW
Handling and stowage in origin	:	US$200
Ocean freight Callao – LA	:	US$4,000
Ocean insurance	:	0.30% FOB
Duties in LA customs	:	5% CIF
Costs in LA customs	:	0.50% CIF
Costs of inspection in destination	:	0.50% FOB
Handling and stowage in destination	:	US$350
Inland freight LA port to warehouse	:	US$450

Calculate the total cost of the Export.

Exercise 3. Taking advantage of your expertise in international business, the company BIKE SAC wants to invest in an Import of bicycles from China and obtain significant profits. There are many importers established, however the high demand for bicycles comes in the month of December and is not yet covered. In this business, speed is required to import the products but also, experience is needed to understand the customers' requirements. If you plan to import one container with a FOB value of US$50,000 (around 500 bicycles); what other costs and expenses, you should face up to bring the product into your local in Lima. Detail two main costs.

Explain the two main criteria used to select a **logistics operator**. Do not include Price.

Explain the **mode of transport** and the type of container you will request for this import.

8. WHY DO WE IMPORT?

Look for the import values in US$ in the SUNAT Web page for these products. Name the Incoterms that are detailed.

Product:	Incoterm:	Value US$
1.		
2.		
3.		
4.		

Exercise 4. The company MINERALS PERU SAC requires to export two containers of purified mineral, and the buyer is Shin Maywa EQUIPMENT LTDA. The cost is U.S. $ 3'198,812 (considered FOB) in the port of Callao, Peru. It will target the port of Yokohama, Japan.

In addition, we have the following information:

Maritime Freight Callao (Perú)-Yokohama(Japan)	:	US$ 20,000
Insurance	:	1.5% FOB value
Tariff in Yokohama	:	12% CIF value
Customs Costs in Yokohama	:	0.4% CIF value
Inspection in destination port	:	1.0% FOB value
Stowage and Handling destination dock	:	US$ 850
Inland freight Yokohama (port-planta)	:	US$ 750

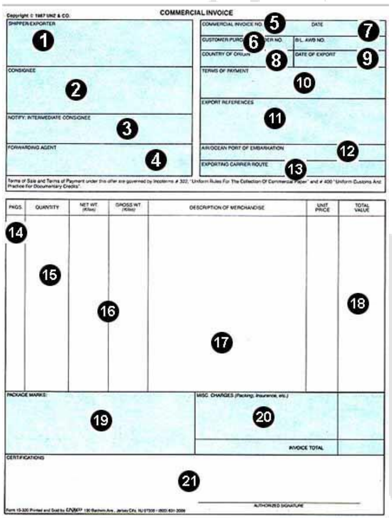
Calculate de CIF and DDP Values.

9. <u>WHY DO WE EXPORT?</u>

Look for the export values in US$ in the SUNAT Web page for 3 main products.

	Product:	Incoterm:	Value US$
1.			
2.			
3.			

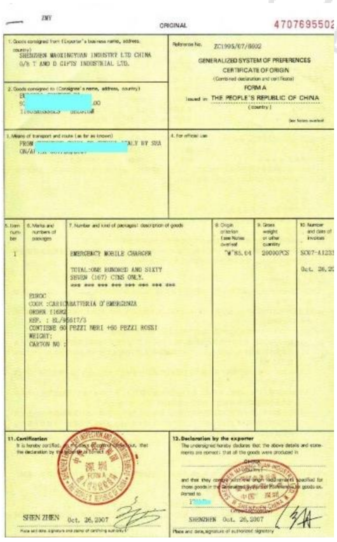
<u>Documents.</u> Explain the main function of each document.


COMMERCIAL INVOICE
SHIPPER/EXPORTER
CONSIGNEE
NOTIFY: INTERMEDIATE CONSIGNEE
FORWARDING AGENT
COMMERCIAL INVOICE NO.
DATE
CUSTOMER PURCHASE ORDER NO.
B/L, AWB NO.
COUNTRY OF ORIGIN
DATE OF EXPORT
TERMS OF PAYMENT
EXPORT REFERENCES
AIR/OCEAN PORT OF EMBARKATION
EXPORTING CARRIER/ROUTE
PKGS.
QUANTITY
NET WT (Kilos)
GROSS WT (Kilos)
DESCRIPTION OF MERCHANDISE
UNIT PRICE
TOTAL VALUE
PACKAGE MARKS:
MISC. CHARGES (Packing, Insurance, etc.)
INVOICE TOTAL
CERTIFICATIONS
AUTHORIZED SIGNATURE

Commercial Invoice:

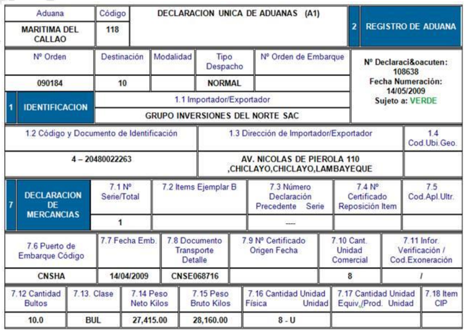
Bill of Lading:


BILL OF LADING
INCA LINES S.A.C.
ORIGINAL


ORIGINAL
GENERALIZED SYSTEM OF PREFERENCES
CERTIFICATE OF ORIGIN
FORM A
THE PEOPLE'S REPUBLIC OF CHINA
EMERGENCY MOBILE CHARGER
11. Certification
12. Declaration by the exporter

Certificate of Origin:

DUA:


DECLARACION UNICA DE ADUANAS (A1)

Aduana	Código			
MARITIMA DEL CALLAO	118			
Nº Orden	Destinación	Modalidad	Tipo Despacho	Nº Orden de Embarque
090184	10		NORMAL	

2 REGISTRO DE ADUANA
Nº Declaración: 108638
Fecha Numeración: 14/05/2009
Sujeto a: VERDE

1 IDENTIFICACION
1.1 Importador/Exportador: GRUPO INVERSIONES DEL NORTE SAC

1.2 Código y Documento de Identificación	1.3 Dirección de Importador/Exportador	1.4 Cod.Ubi.Geo.
4 – 20480022263	AV. NICOLAS DE PIEROLA 110 ,CHICLAYO,CHICLAYO,LAMBAYEQUE	

7 DECLARACION DE MERCANCIAS

7.1 Nº Serie/Total	7.2 Items Ejemplar B	7.3 Número Declaración Precedente Serie	7.4 Nº Certificado Reposición Item	7.5 Cod.Apl.Ultr.
1		—		

7.6 Puerto de Embarque Código	7.7 Fecha Emb.	7.8 Documento Transporte Detalle	7.9 Nº Certificado Origen Fecha	7.10 Cant. Unidad Comercial	7.11 Infor. Verificación / Cod.Exoneración
CNSHA	14/04/2009	CNSE068716		8	/

7.12 Cantidad Bultos	7.13 Clase	7.14 Peso Neto Kilos	7.15 Peso Bruto Kilos	7.16 Cantidad Unidad Física	7.17 Cantidad Unidad Equiv./Prod. Unidad	7.18 Item CIP
10.0	BUL	27,415.00	28,160.00	8 - U		

10. PACKAGES AND PACKAGING

Action on Marketing Mix. Indicate one characteristic of each “P” with the product shown.

	Price	Promotion	Place	Product
Characteristics of the package or packaging				

Reverse Logistics. Prepare a diagram considering the Reverse Logistics of a cell phone company. The origin point begins in the user. Identify the materials that will go to refurbish, remanufacture, recycle and to the landfill.

11. LOGISTICS COSTS

Explain in detail with examples the components of the logistics costs. An exporting company that sells apparel (clothes) for international brands based in Ate, exports to the U.S.A. market and use raw materials from India.

Transport Cost	Warehouse Cost
Inventory Cost	Administration Cost

12. EXERCISES

Exercise 5. The company PHARM SA is going to import a vitamin compound to produce children's vitamins. The cost of placing an import order (administrative costs on arrival) includes the administrative cost $100, an extra cost of $150 per order charged by the shipping agent and US $ 42 per order charged by the air agent. The clearance through customs cost $ 50 per order independent of mode of transport used.

The following suppliers presented these offers:

Supplier	MEDIC - Taiwan	VITAM -France
Price	EXW US$9.9 / Kg	CIP (J.Chavez airport)US$12 / Kg FOB referential US$10.06 / Kg
Inland Freight (Plant-Port)	US$100 / TN	
Stowage	US$80 / TN	
Sea Freight	US$490 / TN	
Insurance	3% FOB value	
Shipment quantity in Kg	2,200.00	1,800.00

In Peru, the costs are:

- ✓ Ad Valorem 7%, (IGV + IPM) 18%
- ✓ The supervising company charges 1.7% of the FOB value of imports.
- ✓ The commission of the customs agency is 2% of the CIF value.

a. Determine the CIF cost per unit (US $ per kilogram) of the shipment from Taiwan.

b. Determine the total import cost of each order placed for each alternative (Taiwan and France).

c. What will be the most economical alternative (Unit Cost US$ per kg)?

Solution. –

Order cost	MEDIC	VITAMIN
Adm cost	100.00	100.00
aditional charges	150.00	42.00
customs charges	50.00	50.00
	300.00	**192.00**

		MEDIC - TAIWAN US$		VITAMIN - FRANCE US$
EXW Cost x Kg	9.90	21,780.00		
Inland Freight x TN	100.00	220.00		
Stowage	80.00	176.00		
FOB	10.08	**22,176.00**	10.06	**18,108.00**
Sea Freight	490.00	1,078.00		
Insurance	3%	665.28		
CIF a	**10.87**	**23,919.28**	12.00	**21,600.00**
Ad Valorem	7%	1,674.35	7%	1,512.00
IGV + IPM	18%	4,606.85	18%	4,160.16
Supervising Comp.	1.7%	376.99	1.7%	307.84
Customs agent	2%	478.39	2%	432.00
Purchase order issue		300.00		192.00
TOTAL IMPORT COST		**31,355.86**		**28,204.00**
Cost x Kg		14.25		15.67

18. **Exercise 6.** The trading company of building products ROCA has an annual estimated demand of 30,000 m2 of ceramics model Arabella, these ceramics can be imported from Spain to the firm Santa Sophia in boxes containing 1.5m2 of these ceramics, with a gross weight of 4kg box. The ROCA company has calculated that each shipment will be of 5 containers, each container has a capacity of 20 pallets and each pallet will be loaded with 75 boxes of ceramics.

Data import:

- ✓ EXW Price US$9.35 per box
- ✓ The Spanish company is 25 km from the shipping port Marseille, domestic freight is US$4.8 by TN for Km
- ✓ Stowage is US$45 TN
- ✓ Ocean freight is US$135 TN, insurance is 8% FOB
- ✓ The unloading is US$ 35 TN
- ✓ Taxes - 20% tariff (arancel), IGV 18%
- ✓ Services of customs broker is US$800 per shipment
- ✓ The freight port of Callao to the ROCA company will be US$40 TN

Calculate the Total Import cost, Cost per m2 and Nationalization costs.

ROCA company has received an offer from San Lorenzo firm, which is a large national company of mayolicas, an offer of US$12.5 per m2 put in their stores, reason why you must do an evaluation of both options to make the best economic decision. Which is the best choice of buying?

Solution. –

Annual Demand	30,000	m2	75	boxes in each pallet
Each box	1.5	m2	20	pallets in each container
Each box	4	kg	5	containers / shipment

Annual Demand	20,000	boxes	266.67	pallets
	80,000	Kg	267	pallets

13.35	containers
2.67	shipments
3	shipments

		USD
EXW Price / box	9.35	187,000.00
Domestic Freight in origin (	4.8	9,600.00
Stowage / Tn	45	3,600.00
FOB		**200,200.00**
Sea Freight / Tn	135	10,800.00
Insurance % FOB	8%	16,016.00
CIF		**227,016.00**
Tariff (Arancel) % CIF	20%	45,403.20
IGV % CIF + Arancel	18%	49,035.46
Unloading Costs / Tn	35	2,800.00
Customs broker services / s	800	2,400.00
Domestic freight in destina	40	3,200.00
DDP		**329,854.66**
TOTAL IMPORT COST		
COST PER M2		11.00
NATIONALIZATION COSTS		94,438.66
		BEST OPTION

19. **Exercise 7**. Manzanita company based in Lima, has decided to import from Hong Kong USB memories, the provider is the company NHK CIA located 50 km from the seaport. Manzanita SAC planned to import 2,000 units, which come in packs of 100 units in each box. The dimensions of the boxes are 0.4mx0.4mx0.6m, the gross weight of each box is 18kg. The price of each USB drive is US$5 EXW.

A quote from an Agent who is willing to bring the goods Manzanita SAC stores, receives the following terms:

- ✓ Land transport at origin - US$0.02 / Kg-Km
- ✓ The company has not taken international insurance, so Sunat has applied 1.5% to the Fob Value according to its Table.
- ✓ Other expenses in origin - US$ 300
- ✓ Transportation charges and ocean freight- US$ 150 / cubic meter
- ✓ Ad-Valorem tax 6% and IGV 18%
- ✓ Charges for agent services - US$ 500
- ✓ Other expenses at destination - US$ 400

Calculate the FOB value and the DDP value.

Calculate the USB Unit price at which Manzanita SAC commercialized, if you have decided to apply 50% margin on the unit cost of imports.

Solution. –

		USD
EXW Price / box	5	10,000.00
Domestic Freight in origin (50 km / Kg / Km)	0.02	360.00
Other expenses in origin		300.00
FOB		**10,660.00**
Sea Freight / m3	150	288.00
Insurance	1.5%	159.90
CIF		**11,107.90**
Ad- Valorem	6%	666.47
IGV	18%	2,119.39
Agent services		500.00
Other expenses		400.00
Insurance	-	159.90
DDP		**14,633.86**
TOTAL IMPORT COST		
UNIT COST		7.32
SALE PRICE		10.98

Exercise 8. TEU and FEU containers.

a) How many boxes of 40x50x80cm and 12Kg weight, fit into a TEU container.

Solution. –

0.4		TEU	33 m3	Weight	2,348.33
0.5			28180 Kg	Volume	206.25
0.8					
0.16	Box volume m3			206.00	Boxes
12	Box Kg				

b) How many boxes of 20x10x50cm and 3Kg weight, fit into a FEU container.

Solution. –

0.2		FEU	67 m3		Weight	9,583.33
0.1			28750 Kg		Volume	6,700.00
0.5						
0.01	Box volume m3				6,700.00	Boxes
3	Box Kg					

Exercise 9. The company Wine SAC intends to import from the French city of Lyon the following wines:

- ✓ Baron D'Ardeuil Buzet, the cost per bottle is 8.90 Euros EXW, 60 boxes
- ✓ Buezet Tradition Rouge 2009, cost per bottle is 8.00 Euros EXW, 30 boxes
- ✓ Chateau de Gueyze 2009, the cost per bottle is 18.20 Euros EXW, 12 boxes

Each box contains 12 bottles of wine. The wines have a 6% tariff (arancel) on the CIF and a payment of 18% of IGV in Callao.

Internal transport will be used, as the city of Lyon has no seaport. The cheaper alternative will be sought having a consolidated shipment. These are the alternatives of internal transport from Lyon to a port:

- ✓ Lyon to Marseille Port: 650 Euros via train
- ✓ Lyon to Marseille Port: 550 Euros via truck
- ✓ Lyon to Port of Le Havre: 1200 Euros via train

Alternatives for international shipping:

- ✓ From Marseille to Callao: 2400 Euros
- ✓ From Le Havre to Callao: 1800 Euros

There is no difference in the days of transit between them.

At origin customs costs amount is 440 Euros, plus the cost of shipping agency services that are 280 Euros.

The company has an insurance quote of US$ 820 for shipping.

In Callao transport costs (up to Wine SAC) and handling are 2700 soles, while the Agent services costs are 3250 soles.

Calculate in dollars:

1. FOB value of the entire shipment
2. CIF value of the entire shipment
3. DDP value of the entire shipment

Use the following exchange rates for conversion:

1 Euro = 1.4 U.S. $

1 U.S. $ = 3.25 soles

Solution. –

	BBA	BTR	CHG	
Cost per bottle (EUR) - EXW	8.90	8.00	18.20	
Quantity - boxes	60.00	30.00	12.00	
Each box - 12 units	720.00	360.00	144.00	
EXW (EUR)	**6,408.00**	**2,880.00**	**2,620.80**	**TOTAL US$**
EXW (US$)	**8,971.20**	**4,032.00**	**3,669.12**	**16,672.32**

Transport (EUR)	**Lyon-Mar train**	**Lyon-Mar truck**	**Lyon-Havr train**
Internal	650.00	550.00	1,200.00
Sea freight	2,400.00	2,400.00	1,800.00
Total Freight	**3,050.00**	**2,950.00**	**3,000.00**

		US$
EXW		**16,672.32**
Internal Transport		770.00
Customs Costs		616.00
Shipping Agency Services		392.00
FOB		**18,450.32**
International Freight		3,360.00
Insurance		820.00
CIF		**22,630.32**
Tariff (Arancel)	6%	1,357.82
IGV	18%	4,317.87
Transport Costs + Handling		830.77
Agent Services		1,000.00
DDP		**30,136.77**

<u>Exercise 10.</u> You are going **<u>to import Smartphones</u>** and will make the first import. Therefore, you have different suppliers evaluated:

<u>Supplier A - U.S.A</u>., the shipment consists:

Product A1 - FOB $ 50, 60 units

Product A2 - FOB $ 100, 60 units

Product A3 - FOB $ 80, 60 units

Product A4 - FOB $ 120, 60 units

<u>Supplier B - KOREA</u>, shipping consists:

Product B1 - FOB $ 50, 150 units

Product B2 - FOB $ 80, 150 units

<u>Supplier C - JAPAN</u>, shipping consists:

Product C1 - FOB $ 140, 100 units

Product C2 - FOB $ 180, 100 units

Each supplier would send goods in one shipment. The cost for shipping them is $:

Origin Country	**USA**	**Korea**	**Japan**
Customs management costs at origin	250	260	500
Transportation and handling costs at origin	50	25	100
Storage costs at origin	25	50	100
International cargo insurance	1200	1000	1400
International transport	1600	1500	2800

Also, you talked with a Customs agent, and informed him that all the products correspond to a single tariff heading, subjected to the following taxes:

Ad / Valorem	7%
ISC	1%
IGV	16%
IPM	2%

Your agent sent you a custom quote for its services in Callao, which is as follows (all services are calculated <u>per shipment</u>):

Transportation and handling costs	$450.00
Storage costs	$260.00
Customs agency costs	$500.00

Finally, the exchange rate by dollar is 3.23 soles.

<u>The following is requested</u>:

a) FOB value in dollars of each shipment.

b) DDP dollar value of each shipment.

c)Unit cost in soles of each type your local warehouse.

d)If your profit margin is 27% on each product. What should be the gain in soles per shipment, if you manage to sell all the merchandise?

e) If the competition in Lima is offering the same products at the following prices. And whereas it is not commercially sustainable to sell products at higher prices than the competition, what alternatives should be evaluated?

Product	Price S/. (no IGV)
A1	350
A2	650
A3	500
A4	500
B1	350
B2	600
C1	900
C2	1200

Solution. –

a) & b)

A-USA	$ FOB UNIT	Q	TOTAL
A1	50	60	3,000.00
A2	100	60	6,000.00
A3	80	60	4,800.00
A4	120	60	7,200.00
	TOTAL FOB		**21,000.00**
	FREIGHT		1,600.00
	INSURANCE		1,200.00
	CIF		**23,800.00**
	ADVAL	7%	1,666.00
	ISC	1%	254.66
	IGV	16%	4,115.31
	IPM	2%	514.41
CALLAO	Transp.& handling costs		450.00
	Storage costs		260.00
	Customs agency costs		500.00
	DDP USD		**31,560.38**
	DDP S/.		**101,940.02**

B-KOREA	$ FOB UNIT	Q	TOTAL
B1	50	150	7,500.00
B2	80	150	12,000.00
	TOTAL FOB		**19,500.00**
	FREIGHT		1,500.00
	INSURANCE		1,000.00
	CIF		**22,000.00**
	ADVAL	7%	1,540.00
	ISC	1%	235.40
	IGV	16%	3,804.06
	IPM	2%	475.51
CALLAO	Transp.& handling costs		450.00
	Storage costs		260.00
	Customs agency costs		500.00
	DDP USD		**29,264.97**
	DDP S/.		**94,525.86**

C-JAPAN	$ FOB UNIT	Q	TOTAL
C1	140	100	14,000.00
C2	180	100	18,000.00
		TOTAL FOB	**32,000.00**

	FREIGHT		2,800.00
	INSURANCE		1,400.00
	CIF		**36,200.00**
	ADVAL	7%	2,534.00
	ISC	1%	387.34
	IGV	16%	6,259.41
	IPM	2%	782.43
CALLAO	Transp.& handling costs		450.00
	Storage costs		260.00
	Customs agency costs		500.00
	DDP USD		**47,373.18**
	DDP S/.		**153,015.38**

c)

A-USA	$FOB	DDP $	UNIT DDP S/.
A1	14.29%	4,509.98	242.79
A2	28.57%	9,016.80	485.40
A3	22.86%	7,214.70	388.39
A4	34.26%	10,812.59	582.08
		31,554.07	

B-KOREA	$FOB UNIT	DDP $	UNIT DDP S/.
B1	38.46%	11,255.31	242.36
B2	61.54%	18,009.66	387.81
		29,264.97	

C-JAPAN	$FOB UNIT	DDP $	UNIT DDP S/.
C1	43.75%	20,725.77	669.44
C2	56.25%	26,647.41	860.71
		47,373.18	

d)

A-USA	SALE PRICE S/.	QUANTITY	TOTAL S/.
A1	308.34	60	18,500.38
A2	616.46	60	36,987.82
A3	493.26	60	29,595.43
A4	739.24	60	44,354.31
		INCOMES	**129,437.94**

PROFIT S/. **27,497.91**

B-KOREA	SALE PRICE S/.	QUANTITY	TOTAL S/.
B1	307.80	150	46,170.40
B2	492.52	150	73,877.44
		INCOMES	**120,047.84**

PROFIT S/. **25,521.98**

C-JAPAN	SALE PRICE S/.	QUANTITY	TOTAL S/.
C1	850.19	100	85,019.17
C2	1,093.10	100	109,310.36
		INCOMES	**194,329.53**

PROFIT S/. **41,314.15**

e)

A-USA	COMPET. S/.	MY PRICE S/.	Q	INCOMES S/.
A1	350	308.34	60	18,500.38
A2	650	616.46	60	36,987.82
A3	500	493.26	60	29,595.43
A4	500	739.24	0	-
		SUBTOTAL		85,083.63
		LOSS S/.	-	**16,856.39**

B-KOREA	COMPET. S/.	MY PRICE S/.	Q	INCOMES S/.
B1	350	280.00	150	42,000.00
B2	600	492.52	150	73,877.44
		SUBTOTAL		115,877.44
		PROFIT S/.		**21,351.58**

C-JAPAN	COMPET. S/.	MY PRICE S/.	Q	INCOMES S/.
C1	900	850.19	100	85,019.17
C2	1200	1,093.10	100	109,310.36
		SUBTOTAL		194,329.53
		PROFIT S/.		**41,314.15**

Exercise 11. You are the Logistics Manager of the Company CABLES GENERALES SAC located in Lurin and you need to evaluate the export operation to Ecuador (5,500 cable rolls), each roll of 100mts and with a total gross weight of 19,250 Kg. This request will be made in a single shipment in a 20-foot container (TEU).

The EXW price will be obtained adding a margin of 30% over manufacturing costs, to cover administrative expenses and generate profit. In Lima, the costs of inland transportation and insurance to the port of Callao are 0.15 USD / Kg; storage costs and handling in port are 0.30 USD / Kg.

As copper (metal), is the 80% of the raw material components, it was decided for this specific order, to import from Chile a batch of 16,000 kg at a price of USD 8.40 Kg / CIF Callao. This raw material is affected with a tariff of 7% and 18% of IGV. In addition, they have other costs in destination that include USD1, 000 for the shipment of copper.

Additionally, to the manufacture of each cable roll you need the following:

Raw Material	Quantity / unit	Price USD
PVC	0.10 Kg	1.20 / Kg
Nylon	0.03 Kg	0.90 / Kg
Pigment (color)	0.009 Kg	1.10 / Kg
Plastic (packing)	0.12 Kg	0.40 / Kg
Direct manual labor	1.00	1.10 / roll
Indirect Costs	1.00	0.90 / roll

The following is requested:

a) The total import cost of the raw material (copper) from Chile in USD.
b) The production cost in USD of a roll of wire (unit)
c) The FOB Callao price in USD of the shipment
d) The indicator in % of the Logistics Costs for Export / FOB Price of the shipment. Indicate an action to improve it.

e) If the total order is 5,500 rolls of cable and only 5,000 rolls were dispatched. Calculate the Fill Rate of this order. Explain.

Solution. –

a)

Import Chile	16,000.00	8.40	CIF
		134,400.00	CIF Callao
		9,408.00	7% Arancel
		25,885.44	18% IGV
		169,693.44	Sub total
		1,000.00	Others costs
		170,693.44	Total Import Costs
		31.04	**Copper** Unit cost ROLL

b)

Production Costs	Kg	USD/Kg	**USD/unit**
PVC	0.100	1.20	0.12
NYLON	0.030	0.90	0.03
PIGMENT	0.009	1.10	0.01
PLASTIC	0.120	0.40	0.05
WORK FORCE	1.000	1.10	1.10
OTHERS	1.000	0.90	0.90
Unit Cost production	ROLL 100mts		2.20
Total Unit Cost			33.24

c)

Profit 30%		30%	**43.21**

Lima			**USD**
$ EXW Lurin	**43.21**		**237,666.51**
Land Transp.	0.15	$/kg	2,887.50
Storage Costs orig	0.30	$/kg	5,775.00
FOB Callao			**246,329.01**

d)

Logistics Cost	8,662.50
	3.52%

e)

Fill Rate	91%

Exercise 12. Peruvian Flavors SAC is a company dedicated to manufacture a mix of dehydrated green rice, and is interested to export its product to the US market, specifically to the state of New Jersey.

The product, “Greeny Rice", is a mixture of rice, seasonings and vegetables to prepare the famous "arroz con pollo". Is made free of impurities and strange particles. Among the characteristics of the packaging, it will be in presentations of 240gr per unit, placed in polyethylene bags and then in cartons.

The unit cost of production is $1.30. It will be applied the Price strategy of market penetration. The profit margin of the company is 30% of the production cost, the sum of the cost of production plus the profit margin results the EXW value.

The Peruvian consumer in New Jersey has the following option to eat something similar in destination: Flavor rice (Alicorp) at$3.10 each unit.

Peruvian Flavors Company has the following information for their next shipment:

Product :	Dehydrated green rice
Type of Load	General
Quantity of the shipment	8,000 units
Number of Cartons	40
Each carton contains	200 units
Measures of each carton	20cm x 30cm x 20 cm
Gross weight shipment	1932 kg

Export costs are: EXPORT COSTS IN ORIGIN (Peru) US$

Certifications	90
Operating expenses	140
Customs agent	100
Loading and Stowage	120
Boarding	196
Financial expenses for documentary collection	50

In addition, there are some extra costs that the operator has sent to the company with the following structure:

Storage Costs in Origin

Movilization	$ 20
Use of crew “cuadrilla”	$ 20
Use of Balance	$ 20
Containerization	$ 65
Terminal Service	$100

International freight charges for several airlines:

AIRLINE TARIFF	ALL IN	MINIMUM
TAMPA	$0,70 / kg	$80,00
LAN	$0,70 / kg	$110,00
AIRMAX	$0,65 / kg	$95,00
ABX	$0,68 / kg	$95,00

Insurance of shipment: 4% of the EXW value.

Costs in destination (EE.UU.)

Concept	Amount
Tariff	10% CIP
VAT	6%
Storage	$50.00
Customs Agent	$100.00
Inland freight	$100.00

a) Calculate the EXW Value of the entire shipment
b) Calculate the CIP Value of the entire shipment
c) Calculate the DDP Value of the entire shipment and the Unit Price of each bag of 240gr of "Grenny Rice" in New Jersey
d) What percentage of the total export value, represent the storage costs?
e) Is viable the business of Peruvian Flavors? Why?
f) If the customer in New Jersey has a quote from a logistics operator to provide the service from the Peruvian Flavors plant to its warehouse in USA at a cost of $ 4,000 (all included). Do you will take it? Why?

Solution. –

a)

Production Cost	1.3	unit
Quantity	8,000.00	units
Gross weight	1,932.00	kg

		US$
Cost of production		10,400.00
Profit Margin	30%	3,120.00
EXW		**13,520.00**

b)

Freight Kg

AIRLINE	**TARIFA ALL IN**	**MINIMUM**	**Freight**
TAMPA	0.70	$80,00	1,352.40
LAN	0.70	$110,00	1,352.40
AIRMAX	0.65	$95,00	**1,255.80**
ABX	0.68	$95,00	1,313.76

		US$
Certifications		90.00
Export Operating Expenses		140.00
Customs agent		100.00
Loading and Stowing		120.00
Shipping Rights		196.00
Financial expenses for documentary collection		50.00
Storage Costs in Origin		225.00
Sub-Total		14,441.00
Airmax freight		1,255.80
Insurance	4%	540.80
CIP		**16,237.60**

c)

		US$
Tariff	10%	1,623.76
VAT (6%)		1,071.68
Storage in Destination		50.00
Agent		100.00
inland freight		100.00
DDP		**19,183.04**

d)

Storage	Total costs
275	19,183.04
	1.43%

e) Yes.

DDP UNIT	2.40
Competitor	3.10

f) Yes.

	US$
Peruv. Flavour costs	5,663.04
Log. Operator Cost	4,000.00

<u>Exercise 13.</u> Rosita Quispe, general manager of the Peruvian company "Dulces Sueños SAC", after many coordinations and negotiations with a Dutch company closes its first purchase order of babies sleeping clothes, to be attended in no more than 45 days. For this reason, Rosita requests your services and ask you to fulfill the exporting process of the order to the Dutch market.

The detail in unit prices (EXW Ate):

a) Size S (0-3 months) = EUR 18 – 180 grams per unit
b) Size M (3-6 months) = EUR 25 – 260 grams per unit
c) Size L (6-9 months) = EUR 32 – 300 grams per unit
d) Size XL (9-12 months) = EUR 32 – 330 grams per unit

In Holland, the company "Shiny Sun" launches the order quantities of 3000 garments where 25% corresponds to the smaller sizes, 35% to the following and the rest to the two largest (20% each). These prices are from Rosita's store in Ate-Lima. Transportation to the air cargo terminal costs EUR 150, including local insurance.

The airfreight Lima-Madrid-Amsterdam is EUR 1740.50.

The customs agent in origin charges EUR 250. They take international insurance and pay EUR 180 for their cargo. The Dutch tariff for baby clothes in general is 6%. The MOMS (Meromsaetningsafgift = IGV = VAT) is 15% and the customs agent in the Netherlands charges 3% of the FCA. The transfer to the warehouse of "Shiny Sun" located in the suburbs of Amsterdam, costs EUR 150.

The company "Shiny Sun" receives the offer of an important store chain in Norway, which sells 60% of the DAP Amsterdam value with a profit of 42%. The other 40% of the clothing is sold directly in Dutch territory, gaining 65%.

a) How much does the company "Shiny Sun" gains by selling to the Norwegians?

b) In direct sales, how much does "Shiny Sun" gains on DAP Amsterdam?

Solution. –

a)

Sizes	% Part. Q	Q	Pu EUR	Kg	Total EUR	Total Kg
S	25%	750	18.00	0.180	13,500.00	135.00
M	35%	1,050	25.00	0.260	26,250.00	273.00
L	20%	600	32.00	0.300	19,200.00	180.00
XL	20%	600	32.00	0.330	19,200.00	198.00
		3,000		**EXW Ate**	**78,150.00**	**786.00**

		EUR
EXW Ate		78,150.00
Internal Freight		150.00
Customs agent		250.00
FCA Lima		78,550.00
Freight		1,740.50
CPT Amsterdam		80,290.50
Insurance		180.00
CIP Amsterdam		80,470.50
Ad valorem	0.06	4,828.23
MOMS	15%	12,794.81
Customs agent	3%	2,356.50
Internal cost		150.00
Total Cost Amsterdam		**100,600.04**

	EUR
CIP Amsterdam	**80,470.50**
T.I.	150.00
DAP Amsterdam	**80,620.50**

Norway	60% DAP	48,372.30
	Profits 42%	**20,316.37**

b)

Holland	40% DAP	32,248.20
	Profits 65%	**20,961.33**

Exercise 14. The growth of olive oil exports made Mr. Samuel Barrios to look for a business of this product, especially when the United States has proved to be a very interesting market based on the entry of the free trade agreement (TLC) with Peru. So, this producer located in Arequipa contacted an American company, Big Brothers Company (Lafayette-Louisiana), and offered varieties of extra virgin olive oil, virgin and common oil.

The order detail is as follows: 300 boxes of extra virgin olive oil, each box with 12 bottles and a price of USD3.54 per bottle; 400 boxes of virgin olive oil, with the same amount in bottles per box and a price of USD2.82 each bottle; and 250 boxes of common olive oil, each box with 6 bottles and the price of USD3.23 per bottle. All the prices are EXW Arequipa.

Additional information to consider in this operation:

✓ Costs in Callao port	USD456
✓ Customs Agent in Callao	USD180
✓ Inland transport cost Arequipa-Callao	USD345
✓ Stowage	USD234
✓ Costs in New Orleans port	USD444
✓ Unstowage	USD246
✓ International Freight Callao-New Orleans	USD2000
✓ Customs Agent in United States of America	USD220
✓ Inland transport cost from N.O. to Lafayette	USD432
✓ Ad-valorem	14%
✓ State Tax in Louisiana (equivalent to IGV)	9%

The Big Brothers Company has an insurance policy for international transport to any risk that costs $ 320 and no deductible applies. This insurance covers the following:

• The purchase value of the lost goods
• The declared value of shipping (international freight)
• The amount of the insurance of the goods

a) Find DDP Lafayette.
b) Find DAP Lafayette. What is the difference between the DDP Incoterm and the DAP?
c) If in the port of New Orleans, the customs agent notices that they have received twenty boxes less of extra virgin oil shipped from Callao. What is the amount that the insurance company would reimburse to Big Brothers Cia.? To obtain the Unit costs of the international freight and insurance, consider the % that results from the "ponderado" of the extra virgin oil with the total EXW value.

Solution. –

a)

Products	Boxes	Bottles per box	USD x bottle	EXW
Extra virgin	300	12	3.54	12,744.00
Virgin	400	12	2.82	13,536.00
Common	250	6	3.23	4,845.00
				31,125.00

		USD
EXW Arequipa		**31,125.00**
Internal freight		345.00
Callao port costs		456.00
Callao customs agent		180.00
Stowage		234.00
FOB Callao		**32,340.00**
International freight		2,000.00
International insurance		320.00
CIF New Orleans		**34,660.00**
Ad-Valorem		-
State Tax	9%	3,119.40
Unstowage		246.00
New Orleans port costs		444.00
Customs agent		220.00
Inland transport		432.00
DDP Lafayette		**39,121.40**

b)

	USD
CIF New Orleans	**34,660.00**
Unstowage	246.00
New Orleans port costs	444.00
Inland transport	432.00
DAP Lafayette	**35,782.00**

c)

	Units		
	240	Unit cost	USD
EXW unit		3.54	849.60
International Transport		0.23	54.59
International Insurance		0.04	8.73
			912.93