

# LSCM 03

Logistics & Supply Chain Management

Roll no. Total No of Printed Pages: 5

Total No. of Questions: 7 Maximum Marks: 60

Duration (hrs.): 3 hours

Note:

A) Question 1 is compulsory and carries 20 marks

B) Attempt any FOUR out of remaining SIX questions (10 marks each)

Within each question attempt TWO out of THREE sub-questions (5x2=10M)

## Question 1: (COMPULSORY FOR 20 Marks)

### CASE: Nestlé's coffee supply chain

The **supply chain** is the sequence of activities and processes required to bring a product from its raw state to the finished goods sold to the consumer. For coffee, the chain is often complex, and varies in different countries but typically includes:

**Growers** - usually working on a very small plot of land of just one or two hectares. Many do some primary processing (drying or hulling) themselves

**Intermediaries** - intermediaries may be involved in many aspects of the supply chain. They may buy coffee at any stage between coffee cherries and green beans, they may do some of the primary processing, or they may collect together sufficient quantities of coffee from many individual farmers to transport or sell to a processor, another intermediary, or to a dealer. There may be as many as five intermediary links in the chain processors - individual farmers who have the equipment to process coffee, or a separate processor, or a farmers' co-operative that pools resources to buy the equipment to convert 'cherries' into green coffee beans .

**Government agencies** - in some countries the government controls the coffee trade, perhaps by buying the coffee from processors at a fixed price and selling it in auctions for export exporters - they buy from cooperatives or auctions and then sell to dealers. Their expert knowledge of the local area and producers generally enables them to guarantee the quality of the shipment

**Dealers/brokers** - supply the coffee beans to the roasters in the right quantities, at the right time, at a price acceptable to buyer and seller

**Roasters** - people like Nestlé whose expertise is to turn the green coffee beans into products people enjoy drinking. The company also adds value to the product through marketing, branding and packaging activities

**Retailers** - sellers of coffee products which range from large supermarkets, to hotel and catering organisations, to small independent retailers.

A supply chain is only as strong as its links. Different relationships exist between organisations involved in the separate stages of the chain - whether it is in the structuring of **product distribution**, arrangements for payment and arrangements for handling, or in storing the product. At the heart of these relationships is the way in which people treat each other. Long-term business relationships need to be based on honesty and fairness - parties to a **trading agreement** need to feel that they are getting a fair deal.

#### **Price – balancing (supply and demand)**

Coffee prices are determined day-today on the world commodity markets in London and New York and with so many intermediaries standing between the producer and the consumer, how can we ensure that coffee growers receive a fair reward for their labours? Is the answer - as some believe – for coffee manufacturers to cut out the intermediaries, buy their coffee direct from farmers and guarantee a minimum price? The price of coffee is determined by the relationship between the amount of coffee available to be sold (**supply**) and the amount which people want to buy (**demand**). If there is more coffee available than people want to buy at current prices, the price will fall. The market thus ultimately determines the price that the farmer receives. There are circumstances in which farmers can receive more than the market price, for example: if the quality of their coffee is high if they undertake some or all of the processing stages which someone else would otherwise be paid to do if they can sell direct to a manufacturer rather than to intermediaries. Farmers can also reduce their costs if they are able to share processing and transportation facilities with other farmers. Coffee farmers may sell their coffee in a number of ways:

- They can sell to the next link in the traditional supply chain - the collector or processor
- They may sell to government agencies in countries where the coffee trade is government controlled, although this is becoming less common
- They may sell direct to a manufacturer like Nestlé.

However, farmers usually cannot choose the method by which they sell their coffee. Selling directly to manufacturers is attractive as farmers potentially receive above the market price. However, it would be impossible for the entire world's coffee to be bought directly by manufacturers from individual farmers a few bags at a time. Although direct purchasing is attractive, it is only one of a number of methods of trading, all of which have their merits and none of which is necessarily fairer than the others. Ultimately it is the market price which determines how much farmers receive.

### **Nestlé's trading methods:**

Nestlé is a pioneer in purchasing coffee direct from growers. A growing percentage of the company's coffee is bought direct from the producer and it is now one of the world's largest direct purchasers. In countries where this is not possible Nestlé operates in a way that takes it as close to the growers as possible.

### **Buying direct**

In coffee-growing countries where Nestlé also manufactures for export or local consumption, it has a policy of buying coffee direct from the farmers. The company offers a fair price to the farmers, and so ensures regular supplies of guaranteed quality for its own factories. Higher quality commands a higher price - a premium that Nestlé is happy to pay, since good quality raw materials are essential to its business. In countries where direct buying takes place, there is a widely advertised Nestlé price, and a minimum base price. By providing a reference level for growers, other traders are forced to keep their offer prices competitive. Nestlé began its direct buying policy in 1986 and the amounts involved have steadily increased. In 1998, around 15 per cent of its green coffee purchases were bought directly. As an example, in the Philippines, farmers bring their produce to Nestlé's buying centres situated in the coffee growing regions. Quality is analysed while they wait and growers are paid on the spot. In 1998, direct purchases accounted for over 90 per cent of the green coffee destined for its two instant coffee factories in the country.

### **Buying from dealers**

In countries like the UK it is simply impossible for companies like Nestlé to buy from the hundreds of thousands of farmers who ultimately supply the company, and so the coffee is bought from dealers using the international market. However, Nestlé visits and gets to know as many people as possible in the supply chain. The company oversees the relationship between the dealer and exporter and often invites shippers to the UK to train alongside its own quality assurance staff. Nestlé agrees procedures on everything from pest control to methods of packing to ensure everyone is working towards the highest standards of quality.

### **Conclusion**

Creating wonderful cups of coffee is not only Nestlé's business, it is the business of everyone involved in the supply chain. It is in everyone's interest - the farmers' and Nestlé's - that farmers receive a fair income from their coffee. This ensures that they will continue to grow coffee, and to invest in increasing their yield and quality, and this in turn guarantees the supply of quality coffee which companies like Nestlé require.

## QUESTIONS

(4x5=20 Marks)

1. How does Nestlé help coffee growers in the developing world? Explain different forms of help that Nestlé gives.
2. How is the price of coffee determined on international markets? Explain why intermediaries in the process of distribution, help to both lower and increase the final price of goods.
3. What do you understand by the concept of 'value'? What aspects of the coffee supply chain enhance the 'value' that the customer receives in making purchases?
4. How might growers in the developing world benefit from selling direct to Nestlé?

Attempt any FOUR out of remaining SIX questions:-

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Question 2: Any TWO from (a) (b) or (c) (5x2 = 10 Marks)

- (a) Define Logistics and Supply Chain Management and explain similarities and differences between the two.
- (b) What are the various criteria for selecting the carrier for transportation?
- (c) What are the parameters for evaluation of a warehouse?

Question 3: Any TWO from (a) (b) or (c) (5x2 = 10 Marks)

- (a) What are the various functions performed in warehousing?
- (b) Explain DRP and its uses
- (c) Explain uses of computers in Material Management and Purchasing.

Question 4: Any TWO from (a) (b) or (c) (5x2 = 10 Marks)

- (a) Write a short note on 3PL/4PL
- (b) Explain with examples various types of Inventory costs
- (c) What are the objectives of logistical packaging? Give some examples of packaging materials.

Question 5: Any TWO from (a) (b) or (c) (5x2 = 10 Marks)

- (a) What are the various costs involved in packaging
- (b) What are the various supply chain functions that can be outsourced?
- (c) What are the barriers to integrated SCM?

Question 6: Any TWO from (a) (b) or (c)

(5x2 = 10 Marks)

- (a) Explain with examples following distribution strategies- Direct shipment, Cross-docking, Milk run, transshipment
- (b) Explain scope of logistics with system based approach.
- (c) Short note on Bullwhip Effect and how to minimise it

Question 7: Any TWO from (a) (b) or (c)

(5x2 = 10 Marks)

- (a) Explain with examples different types of distribution channels.
- (b) Explain in brief the principles of warehouse design.
- (c) Using method of least squares, forecast the demand for the 13<sup>th</sup> month using the given data

MONTH (X)	DEMAND (Y)
1	37
2	40
3	41
4	37
5	45
6	50
7	43
8	47
9	56
10	52
11	55
12	54
13	??

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