INTERNATIONAL DIPLOMA IN LOGISTICS AND TRANSPORT

SUPPLY CHAIN MANAGEMENT
DIP02

NOVEMBER 2024

Note to Candidates

Candidates are advised to spend NOT more than 45 minutes on each question

Instructions to Candidates

- Duration of examination **3 hours**
- **Answer ALL Questions in Section A and any THREE questions in Section B**
- Questions may be answered in any order.
- Allocations of marks is indicated along each question.
- Credit will be given for citing relevant examples.
- Write legibly.

SECTION A

QUESTION 1 (Compulsory)

Case study - Tileco Ceramic Tile Manufacturer

Tileco is a ceramic tile manufacturer based in Castellon, in Spain with a turnover of 42 million euros (2000). Tileco's strategic objectives focus on offering the customer good service (quality, reliability, innovation and exclusivity) and on maximising efficiency (reduction of lead times, reduction of costs, flexibility). The growth of Tileco, like that of many enterprises in the ceramic tile sector, was remarkable from the beginning of the 1990s onward. In order to face the greater complexity that stemmed from the new situation,
organisational change was introduced in 1996. The owners ceased to manage the firm on a day to day basis and hired qualified managers, created new management positions (the logistics director being one of them) and promoted a gradual decentralisation of the responsibilities.
After about 3 years of fast growth some organisational problems emerged. These included lack of coordination between areas and commercial and production policies, although they were designed to be favourable for the running of the business. For example, they expected all kinds of orders (very small orders or orders that meant developing a new model without

any guarantee of continuity), committed themselves to deliver to certain customers, although that meant delaying other orders, or modified production planning, which gave high set up costs. As a result, year 2000 was a year of uncertainty and poor results. That financial year was characterised by the analysis of and search for the causes that led to stagnation in profitability. To this end in mid-2000 the CEO decided to hold meetings of management team more often, and to use performance indicators that, in his own words "would provide measures of the important processes in the company". Specifically, the objective of the CEO was to shed light on those issues that would positively or negatively, directly or indirectly, influence profitability. A new system of performance indicators was designed and developed with some influence of the balance scorecard. The performance indicators were developed by each top-level manager following the guidelines of the CEO.

The adoption of the performance measurement system was also favoured by the implementation of an ERP system which was capable of collecting, processing and offering large amount of information and which would allow the management indicators to be calculated without too much effort (most of the indicators were based on data generated by the ERP). According to the directors, had it not been for the aid provided by the ERP, the indicators would not exist because it would be impossible to perform the calculations needed to obtain them on a weekly basis.
(*Source: Ramos, M.M., December 2004. Change in the Logistics Management Style through Performance Indicators, A Case Study: International Journal of Logistics Research and Applications, Vol. 7 No. 4*)

a) Using a Balanced Score Card (BSC) model, identify key performance areas in the case study that the management team of Tileco Ceramic could focus on to provide measures that will influence the organisation's profitability.

(25 marks)

SECTION B

Answer any THREE questions.

QUESTION 2

(a) Complete this table to show the comparison between lean and agile supply chains.

(14 marks)

Characteristics	Lean	Agile
Typical products		
Demand in market		
Product variety		
Product life cycle		
Customer drivers		
Profit margins		
Dominant costs		

(Adapted from Mason-Jones, et al 1999)

(b) The lean and agile approaches can complement each other in a hybrid model called '*Leagile*'. Discuss how the lean principles can complement an agile supply chain. **(11 marks)**

QUESTION 3

The Supply Chain Operations Reference (SCOR) model examines five key processes of Plan, Source, Make, Deliver and Return. Demonstrate how these processes apply to the logistics and supply chain activities of your own organisation or one you are familiar with. **(25 marks)**

QUESTION 4

With the aid of examples write brief notes on the following terms.

a) Stock keeping units **(5 marks)**
b) Re-order quantity **(5 marks)**
c) Turning inventory **(5 marks**)
d) Velocity **(5 marks)**
e) eAgile Supply chain **(5 marks)**

QUESTION 5

(a) Assess the implications of JIT approaches in global supply chains. **(10 marks)**

(b) Suggest ways that Starlink a global supply chain organisation can address the challenges in implementing JIT practices in Zimbabwe. **(15 marks)**

QUESTION 6

(a) A product sells for 300ZWG; you have paid 80 ZWG for this product. The product has been stored in your warehouse for some time. Your policy is to charge 10% of the selling price for warehousing cost. 50 ZWG per item is charged to cover transport cost associated with this product and 20 ZWG charged to cover other retail expenses. Calculate the Direct Product Profitability (DPP) for this product. **(10 marks)**

(b) The product stated in 6(a) has an RFID. Discuss the advantages and disadvantages of having an RFID on a product and how this technology assists in supply chain audits. **(15 marks)**