PGDM (RM), 2019-21
Inventory & Logistics Management
RM-308
Trimester – III, End-Term Examination: June 2020

Time allowed: 1 Hrs 30 Min
Max Marks: 30

Roll No: _____

Case Study

ABC Group commenced its commercial production at Chennai, Tamil Naidu, India in the year 1984 as Automotive Component manufacturing unit. Over the years the Group has broadened its product range to sheet metal stampings and its assemblies like Load Body (Cargo), Door Assemblies, Floor Assemblies, Machined Components like Salisbury Tube Assemblies, Banjo Beam Assembly and also Bus Bodybuilding, Tipper manufacturing and Roll forming. Innovation has been on-going efforts at ABC Group and as a result they have developed the competency to be a Product Development Group providing the "Art to Part" Solutions to their Customers. Effective Mapping of Customer requirement and adhering to the Voice of Customer thereby paving a way to Total Customer Satisfaction and Delight is the major focus of the entire organization. This undoubtedly makes them a proud manufacturer with a strong foothold on the market dynamics and thereby earning the goodwill of the customers. The vision and mission of the company are:

"**To be a leading organization committed to meet customers, employees & shareholders expectations adhering to the core values**."

and

"**To manufacture world class quality automotive & allied engineering products for domestic & International markets.**"

One of the major operating difficulties of the company is the scientific control of the inventory. These may vary from 10,000 to 100,000 different types of stocked items and it is neither feasible nor desirable to apply rigorous scientific principles of inventory control in all these items. Such an indiscriminate approach may make cost of inventory control more than its benefits and therefore may prove to be counter-productive. Therefore, inventory control has to be exercised selectively. Depending upon the value, criticality, and usage frequency of an item we may have to decide on an appropriate type of inventory policy. The company uses ABC analysis is used for managing the inventory. The data for the same is given in the below table:

Table 1: Data of goods and their annual usage

Item	Consumed Quantity	Cost/unit
R-001	20000	250
R-002	2500	500
R-003	1000	1000
R-003	450	44
R-005	5200	320
R-008	2500	200
R-009	3000	100
R-010	2000	50
R-013	1300	320
R-014	1400	325
R-016	2000	320
R-019	600	200
R-024	2000	325
R-025	900	50
R-027	400	320
R-030	2000	325
R-033	4500	100
R-036	2000	325
R-041	5000	200
R-050	2346	200

Further, the company procures components R-001, R-002 and R-003 from three suppliers located in Chennai. Components purchased from supplier A are priced at INR 250 each and used at the rate of 20000 units per month. Component B are priced at Rs. 500 each and used at the rate of 2500 units per month. Components purchased from supplier C are priced at INR 1000 each and used at the rate of 1000 units per month. Currently, the company purchases the components separately (transport them separately in individual trucks). As part of their just-in-time (JIT) drive. The company wants to get more frequent supplies from these suppliers and has decided to share a truck for the three suppliers from Chennai. The trucking company charges a fixed cost of Rs. 15000 for each truck trip with an additional charge of INR 3000 per stop. So, if the company asks the trucking company to pick material from one supplier, the trucking company will charge Rs. 18000 per trip and charge INR 21000 if asked to pick material from two suppliers in each trip and so on.

Q1. What are the strategic steps involved in inventory planning decisions? What kind of planning is required before the company should go for JIT? (CILO 1)

Q2. Sort the data given in table 1 as per ABC analysis and draw the corresponding Pareto Chart. (CILO1)

Q3. Compare the two policies (sharing truck and not sharing truck). Assume that ABC Group incurs a holding cost of 20 per cent per year and that there are no capacity constraints on the truck trips. (CILO 3)

Q4. ABC Group has decided to implement JIT manufacturing in its true spirit and prefers to get one truck every day with just the required number of components. What are the additional costs of JIT implementation? What should be the cost of each trip to make the daily trip an optimal decision? Assume that the company operates for 25 days a month. (CILO 2)

Q5. If sharing of truck results in damages of 1% of the goods shipped. How will this information affect the decision? (CILO 3)