

K. J. SOMAIYA INSTITUTE OF MANAGEMENT STUDIES AND RESEARCH
Program: PGDM First Trimester (Batch 2016-18)
Subject: Operations Management
(End Term Examination)

Maximum Marks: 50 Marks

Date: 24th Sept 2016

Duration: 3 hrs

Notes:

1. **Question 1 is compulsory.** Answer any 4 (from Q2 to Q6)
2. Answer questions as per instructions in questions.
3. Make suitable assumptions if required and state them.

Question 1 – Case

(5*2 = 10 Marks)

Elegant Furniture Ltd is a leading designer and manufacturer of furniture. The owner of the company, Vijay, has always concentrated on manufacturing high-quality customized furniture for niche customers. His customers have a say even in selecting the type of wood to be used for making a particular part. The company was doing well with its business model of concentrating on customized products for niche customers. However, in the last two years, the market has been flooded with standard products and the variety and range has also increased significantly. The manufacturers of the standard line furniture used the automated process and the quality of their products was good. As they produced in bulk, they were able to achieve economies of scale and could set their prices at a relatively low level.

Elegant Furniture had made a mark in the customized furniture market due to its creative designs and high quality workmanship and Vijay wanted to expand his business. As the market for standard products was growing exponentially, he thought that the time was opportune to enter this business segment. Vijay also felt that by manufacturing standard line, he would be able to reach a wider range of customers which could help him in his customized furniture business. Though the expansion of his business appeared an attractive proposition, conflicting thoughts were going through his mind. He thought that both types of products needed different approach in manufacturing. For his customized products, he used more skilled labour and was paying them more than the industry standard. For standard products, manufacturing mainly through automated processes, the market rates were low. Although Vijay knew that manufacture of both types of products require different approaches, he felt that if he engaged separate workers for the new business at lower wages, a conflict might arise between them and his other employees. Finally after considering all the pros and cons, he decided to enter into mass market for standard products. At the same time, he wanted to ensure that his reputation as a maker of high quality customized products was not affected.

Thus, Vijay began operating in both the customized and standard furniture markets. The company used its existing machines for the production of both customized and standard products, since they were mainly general purpose in nature. The layout of facility was such that machines of one type were placed together.

As the brand image of Elegant Furniture was quite strong, it helped Vijay get orders for standard line furniture. Gradually, he also began receiving orders from large retail outlets. Additional salesmen were hired, and they focused on developing new markets for the standard line furniture. Initially, the company was able to meet the requirements of both customized and standardized line furniture, but as the demand grew, the employees were asked to work overtime at least thrice a week. In spite of this, the demand was not effectively met.

At Elegant, the machines, equipment, tools and craftsmen involved in making both standard line and customized furniture were the same. Therefore, the customized and standard furniture competed for processing time on the same equipment by the same craftsmen. The increase in sale of standard line furniture naturally demanded more processing time. However, when scheduling trade-offs had to be made, custom line furniture was given the priority as it generated better profits. As a result, the company had to regularly deal with significant raw material and work in progress inventory between different processing stages. Vijay expanded the capacity of the plant to the extent possible, and there was no scope left for further expansion.

The company's market share in standard furniture increased, and it continued to do extremely well in its customized furniture business. However, the current year's financial results showed a sharp decline. This worried Vijay and started analyzing his operations and their efficiencies. His Finance Manager told him that costs associated with standard furniture products had increased considerably. He cited two reasons for the same. Standard products were given lower priority and, the time to produce that had increased. Because of long processing time, the inventory costs had gone up and they had to take extra space on rent for storing raw materials and work in progress. Vijay realized that he needed to do something fast to bring the company back on track.

Questions for Discussions

1. What could Vijay have done differently to avoid some of the problems he was now facing?
2. What type of layout should Vijay adopt in the new facility and why?

Question 2 –

(10 Marks)

Discuss some of the issues that a small pizza restaurant might face in inventory management. Would a pizza restaurant use a fixed order quantity or a fixed time period for fresh dough (purchased from a bakery on contract)? What would be the advantages and disadvantages of each in this situation?

Question 3 –

(10 Marks)

Enumerate the JIT philosophy and list out the tools and techniques that help in fulfilling JIT. How are JIT and Quality related?

Question 4 –

(10 Marks)

Define the Supply Chain. What is the Bullwhip effect and how can it be minimized?
Explain the type of supply chain strategies.

Question 5 – Answer **any two** of these questions.

(10 Marks)

- 3. A** . A company wants to introduce a new product in the market. What are the possible ways it can use to forecast the sales of the product?
- 3. B** - Explain different types of capacity augmentation strategy.
- 3. C** – *When is a Centre of Gravity method used ? Explain the method.*

Question 6 – Write short notes on **any two** questions.

(5*2 = 10 Marks)

- A** - Value Engineering. **B** - Costs of quality **C** - Types of layouts.