

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR



Department of MBA

SUB: OPERATIONS MANAGEMENT (18MB9012)

COURSE: I MBA II SEM (R18)

Unit-I

1. Define operations management .and explain its functions [10M]
2. Explain the historical development of Production and operations management.[10M]
3. Distinguish between product design and process design. [10M]
4. Discuss operations management scenario in today's environment. [10M]
5. Write a short note on [10M]
(a) CAM (b) CAD (c) Process technology
6. Explain various types of manufacturing process technologies in operations management. [10M]
7. Discuss new product development process with a suitable example. [10M]
8. Elaborate the overall view of production and operations management. [10M]
9. What do you mean by process design? and explain what types of factors affects the process design. [10M]
10. Discuss the role of operations manager in business scenario. [10M]

Unit-II

1. Sketch the principles of good plant layout. [10M]
2. Explain intricacies of aggregate planning. [10M]
3. Explain various factors that determine aggregate planning. [10M]
4. Explain the merits and demerits of product and process layouts [10M]
5. Discuss flexible manufacturing system and Group technology. [10M]
6. Sketch the creation of facilities and its strategic importance. [10M]
7. Discuss the role of operation manager in prevention and breakdown maintenance. [10M]
8. Explain the preparation of aggregate demand forecast. [10M]
9. What are the minimum required facilities for a good layout? [10M]
10. Write a short note on [10M]

(a) Aggregate planning (b) Group Technology (c) Maintenance

Unit-III

1. Elaborate various methods of scheduling. [10M]
2. Differentiate job shop and continuous production methods with examples. [10M]
3. Distinguish between production planning and control. [10M]
4. What are the methods of production control? [10M]
5. Explain line of balance. [10M]
6. Define scheduling .and explain various factors affecting of scheduling. [10M]
7. Explain the different feasible production alternatives. [10M]
8. Elaborate world class production methods [10M]
9. Write a short note on [10M]
(a) Shop loading (b) line of balance (c) Assignment and sequencing
10. Discuss the role of operations manager role in scheduling. [10M]

Unit-IV

1. Why do we conduct work study to increase productivity? [10M]
2. Critically examine method study procedure. [10M]
3. Write a short note on [10M]
(a) Job design (b) Work sampling (c) work design
4. Explain different types of Industrial Engineering techniques. [10M]
5. Discuss [10M]
(a) TQM (b) Six sigma (c) ISO 9000 series
6. Discuss the control charts of variables and attributes. [10M]
7. Explain the economics of quality assurance inspection and quality control. [10M]
8. What do you mean by work measurement? And explain its needs [10M]
9. Briefly discuss about work study and method study [10M]
10. Discuss [10M]
(a) Quality assurance (b) acceptance sampling (c) inspection.

Unit-V

1. Elucidate various productivity management techniques. [10M]
2. Briefly explain the total productivity model. [10M]
3. Describe productivity engineering and its elements. [10M]
4. What is the importance of productivity cycle? [10M]
5. Briefly explain the basic concepts of productivity. [10M]
6. Explain the role of operation manager in productivity. [10M]
7. Discuss the productivity management and its elements. [10M]
8. What are the factors to be considered in productivity engineering? [10M]
9. Describe the different ways to have better productivity management. [10M]
10. Discuss the role of total productivity model in operations management. [10M]

Case Study 1:

Company Background

Apollo Animal Clinic (AAC) is a metropolitan veterinary clinic specialising in the medical care of dogs and cats. Dr. Sunitha opened the clinic three years ago, in Bangalore hiring another full-time veterinarian, a staff of three nurses, an office manager, and an office assistant. The clinic operates Monday through Friday during regular business hours, with half days on Saturdays and extended hours on Wednesday evenings. Both doctors work during the week and take turns covering Wednesday evenings and Saturdays. Dr. Sunitha opened the clinic with the intent of providing outpatient animal care. Overnight services are provided for surgical patients only. No other specialised services are offered. The facility for the clinic was designed for this type of service, with a spacious waiting and reception area. The examining and surgical rooms are in the rear, just large enough to accommodate their initial purpose. As time has passed, however, the number of patients requesting specialised services has increased. Initially the requests were few, so Dr. Sunitha tried to accommodate them. As one of the nurses was also trained in grooming services, she began to alternate between her regular duties and pet grooming. Pet grooming was performed in the rear of the reception area, as it was spacious and there was no other room for this job. At first this was not a problem. However, as the number of pets being groomed increased, the flow of work began to be interrupted. Customers waiting with their pets would comment to the groomer in the rear, who had difficulty focusing on the work. The receptionist was also distracted, as were the animals. The number of customers requesting grooming services was growing rapidly. Customers wanted to drop off their pets for a “package” of examining, grooming, and even minor surgical procedures requiring overnight stays. The space for grooming and overnight services was rapidly taking over room for other tasks. Also, most of the staff was not trained in providing the type of service customers were now requiring.

The Dilemma

Dr. Sunitha sat at her desk wondering how to handle the operations dilemma she was faced with. She started her business as a medical clinic but found that she was no longer sure what business she was in. She didn't understand why it was so complicated given that she was only providing a service. She was not sure what to do.

Case Questions

- (a). Identify the operations management problems that Dr. Sunitha is having at the clinic.
- (b). How would you define the "service bundle" currently being offered? How is this different from the initial purpose of the clinic?
- (c). Identify the high-contact and low-contact segments of the operation. How should each be managed?
- (d). What should Dr. Sunitha have done differently to avoid the problems she is currently experiencing? What should Dr. Sunitha do now?

Case Study 2:

ABC Ltd. is the country's largest manufacturer of spun yarn with well-established market. ABC Ltd. has good reputation for quality and service. Their marketing department identified that the potential for global market is expanding rapidly and hence the company undertook exercise for expansion of the capacity for export market.

The company formed team of Marketing and Materials department to study the global logistics possibilities. After extensive study, the team came up with a report on global logistics and submitted that global logistics is essentially same as domestic due to following similarities:

- The conceptual logistics framework of linking supply sources, plants, warehouses and customers is the same.
- Both systems involve managing the movement and storage of products.
- Information is critical to effective provision of customer service, management of inventory, vendor product and cost control.
- The functional processes of inventory management, warehousing, order processing, carrier selection, procurement, and vendor payment are required for both.
- Economic and safety regulations exist for transportation.

The company had very economical and reliable transportation system in existence. For exports as well they decided to evaluate capabilities of their existing transporter and entrusted them with the job of transport till port. For customs formalities they engaged a good CHA after proper cost evaluation and entered into contract for freight with shipping company agent

The response for company's export was very good and the company could get as many as 15 customers within first two months and reached to a level of USD 250,000 per month by the end of first half of the year. Based on this response the export volumes were expected to grow to a level of USD 400,000 per month by the end of the year. When the review was made at the end of the year, company found that export volumes had in fact come down to the level of USD 120,000 which was much lower than it had reached in the first half of the year.

The managing committee had an emergency meeting to discuss this and the export manager was entrusted with the task of identifying the reasons for this decline. Mr. Ganesh decided to visit the customers for getting the first hand information. When he discussed the matter with the customers, the feedback on the quality and price were good but the customers were very upset on the logistic services due to delayed shipments, frequent changes in shipping schedules, improper documentation, improper identifications, package sizes, losses due to transit damages et

After coming back, the export manager checked the dispatch schedules and found that production and ex-works schedules were all proper. Then he studied the logistics systems and found that the logistics cost was very high and all the logistics people were demotivated due to overwork and were complaining of total lack of co-ordination and the system had become totally disorganised.

Questions

1. Explain the problems experienced by ABC Ltd. What is the main cause of these problems?
2. What logistics model should the company go for to ensure proper operations of the company?

Case Study 3:

PLANT LAYOUT DESIGN

Alpha, a four-wheeler company, is a leading company in the south manufacturing chassis of bus/lorry in 600 Acres of land with 3000 employees. The annual production capacity of the plant is 60,000 chassis. The market research department projected its future demand to be 2.5 times the present capacity of the plant. So, the company took a decision to set up another plant in the North with a capacity of 75,000 chassis. It is in the process of procurement of the required land of 1000 Acres. The projected number of employees in the new factory would be 4000.

The productivity of any company mainly depends on the type of layout i.e., used to carry out the activities to produce the product. So, the industrial engineering department of the existing company is given the task of design the right type of layout for the new company.

All the sections of the automobile company will not have the same type of layout. The final assembly of chassis is done on a powered conveyer belt. This part of the company uses product layout which assembles the necessary sub-assemblies and components to form a full chassis.

The other sections of the company are as follows:

- Engine Assembly
- Cylinder production
- Cylinder Head Production
- Connecting rod production
- Gear production
- Radiator
- Fuel pump
- Fuel Injection System
- Gear box
- Clutch plates
- Wheels and braking systems
- Tubes & Tyres
- Bulbs
- Doors

- Glasses
- Bearings
- Nuts & Bolts
- Bumpers
- Cotter pins

Now, the company is left with the option of process layout/product layout/group technology layout/fixed position layout for the sections listed in this case.

Questions:

1. As a consultant to the company, critically examine the material handling activities in each section and accordingly suggest a suitable layout.
2. Also, suggest available software technique to design each layout.
3. Also, give the overall layout of the company which shows the positioning of different sections in relation to the chassis assembly line.

Case Study 4:

JIT in Action

A new phenomenon called ‘Apparel on Demand’ is slowly making its presence felt. It is an extension of JIT linking retailers and manufacturers for a just-in-time Responsiveness. NAAR Clothing Inc., promoted by a young management graduate has recently ventured into the business of making reasonably priced custom jeans for women. It has partnered with many stores selling women garments. In the stores, women are electronically measured and information like colour, fabric, style, etc., are recorded. The information reaches the NAAR manufacturing facility at Ahmedabad almost immediately through a state-of-the-art information system. NaAR guarantees delivery of the custom jeans within 10 days. With the growing acceptance of jeans among the women in India, especially in the urban areas, the market for women’s jeans is growing at a fast pace. NAAR with its unique business model hopes to garner a significant share of this market. The promoter of NAAR along with her top executives is confident that their concept of JIT jeans would work.

Questions:

- (a) Do you think NAAR’s strategy would work? Why or why not? What is the importance of retailers in its business strategy?
- (b) Will customers wait for 10 days to have the jeans delivered? What can NAAR do to compete on customer service if delivery takes this much time?
- (c) Comment on the necessity of a robust supply chain in the context of NAAR Clothing Inc.