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OPERATIONS MANAGEMENT

Sub Code- MBCII-IV

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PROGRAMME EDUCATIONAL OBJECTIVES: PEO

1. Will be recognized as a creative and an enterprising team leader.
2. Will be a flexible, adaptable and an ethical individual.
3. Will have a holistic approach to problem solving in the dynamic business environment.

Course Objectives Of OM

- CO1: The student manager will be able to differentiate between the planning premises (MTO, MTS, ATO) based on the type of manufacturing processes (Mass, Batch, Job, Project).
- CO2: Given a facility establishment for a product or a service, the student manager will be able to identify/ enlist the factors that affect the facility location decisions.
- CO3: Given a facility establishment for a product or a service or the type of manufacturing processes (Mass, Batch, Job, Project), the student manager will be able to identify the type of layout and draw the layouts.
- CO4: Given the set of activities and their duration of completion, the student manager will be able to Construct a PERT network and identify the critical path and project completion time.

Course Objectives Of OM

- CO5: Given the supplier's vendor rating criteria with weightages and the n number of vendors with their criteria weightages, the student manager will be able to identify the best vendor for the organization.
- CO6: The student manager will be able to enlist the types of inventory management tools based on the types of inventory.
- CO7: Given the levels or phases of operations in a manufacturing unit, the student manager will be able to identify the costs of quality and enlist various costs associated with the same.

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Unit III

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UNIT 3 SYLLABUS

Materials Management:

Role of materials management, Purchase process and management, concepts of lead time, re-order level, purchase requisitions and purchase orders, Vendor selection and rating (with numerical), Stores procedure and management. Inventory Management: Concepts of Inventory management, Inventory costs, EOQ model, Inventory management tools, ABC analysis, FSN, HML, VDE, GOLF etc.

Materials Management

It is concerned with planning, organizing and controlling the flow of materials from their initial purchase through internal operations to the service point through distribution.

AIM OF MATERIAL MANAGEMENT

To get

- 1. The Right quality**
- 2. Right quantity of supplies**
- 3. At the Right time**
- 4. At the Right place**
- 5. For the Right cost**

Two Models of Purchasing

- ▶ A company that uses an **auction model**—emphasizing lowest delivered price, extracting extended payment terms, and tolerating low quality standards that will get the finished product past its warranty period and no more—is a company that has a near-term financial orientation

Purchase Process

Determining Purchase Budget:

Receipt of Purchase Requisition

Determining Sources of Supply

Placing Order

Follow-Up of Purchase Order

Receipt and Inspection of Materials:

Vendor Selection and Rating

Competitive pricing.

Price stability.

Price accuracy.

Advance notice of price changes.

Sensitive to costs..

Billing.

Inventory Cost

1. Ordering Cost
2. Carrying Cost
3. Shortage or stock out Cost & Cost of Replenishment

1. Cost of Loss, pilferage, shrinkage and obsolescence etc.
2. Cost of Logistics
3. Sales Discounts, Volume discounts and other related costs.

EOQ

What is EOQ?

EOQ stands for Economic Order Quantity. It is a measurement used in the field of Operations, Logistics, and Supply Management. In essence, EOQ is a tool used to determine the volume and frequency of orders required to satisfy a given level of demand while minimizing the cost per order.

EOQ Model

Components of the EOQ Formula:

D: Annual Quantity Demanded

Q: Volume per Order

S: Ordering Cost (Fixed Cost)

C: Unit Cost (Variable Cost)

H: Holding Cost (Variable Cost)

i: Carrying Cost (Interest Rate)

Inventory management tools

ABC analysis,

FSN,

HML,

VDE,

GOLF

ABC Analysis

Item A:

It is interesting to note that the top 70 to 80 percent of the yearly consumption value of the company comes from only about 10 to 20 percent of the total inventory items. Hence, it is crucial to prioritize these items.

Item B:

These are items that have a medium consumption value. These amount to about 30 percent of the total inventory in a company which accounts for about 15 to 20 percent of annual consumption value.

Item C:

The items placed in this category have the lowest consumption value and account for less than 5 percent of the annual consumption value that comes from about 50 percent of the total inventory items.

HML

Determine the frequency of stock verification

To keep control over the consumption at the department level.

To evolve buying policy, to control purchase

To delegate the authority to different buyer

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VDE

It attempts to classify the items used into three broad categories, namely Vital, Essential, and Desirable. The analysis classifies items on the basis of their criticality for the industry or company.

Vital: Vital category items are those items without which the production activities or any other activity of the company, would come to a halt, or at least be drastically affected.

Essential: Essential items are those items whose stock – out cost is very high for the company.

Contd....

Desirable: Desirable items are those items whose stock-out or shortage causes only a minor disruption for a short duration in the production schedule. The cost incurred is very nominal.

Reference

Production and Operations Management , K.
Aswathappa , K. Shridhar Bhat.