

UNIT – 1

INTRODUCTION TO PRODUCTION AND OPERATIONS MANAGEMENT

Introduction - Meaning & Definition – Classification - Objectives and Scope of Production and operation Management -Automation: Introduction – Meaning and Definition – Need – Types - Advantages and Disadvantages

Introduction

Production is the creation of goods and services. The production activity is nothing but the step by step conversion of one form of material into another either chemically or mechanically. This is done in factories which have manufacturing processes. The basic inputs of production process are men, machines, plant, services and methods. The finished products of one manufacturing process may not become finished product for consumption it may become the raw material for other manufacturing process. Production involves the step by step conversion of one form of materials into another through processing to create or enhance the utility of the products or services.

Meaning of Production

Production refers to the use of any process which is designed to transform a set of input elements into set an output elements.

It involves the step by step conversion of one form of material into another to create or enhance the utility of the products or services.

Definition of Production

According to Elwood Butta, “Production is a process by which goods or services are created.”

Ways of Production

- **Production by disintegration** i.e., by separating the contents the desired product is produced. Ex: Crude oil, fuel oils etc.,
- **Production by Integration** i.e., production by assembling various components of the products to get desired product. Ex: 2 wheelers, 4wheelers etc.,
- **Production by services** i.e., production is based on chemical and mechanical properties of materials without physical change. Ex: heat treatment of metals etc.,

Classification by Production

- a. **Job shop production** – It refers to the manufacturing facility that produces several different

mind.

- 2) **Process selection and planning:** Selection of process involves taking decisions about technology, machines and equipment
- 3) **Location facilities:** It is the most important facility as it looks for long term decisions; a wrong decision can make it pay a lot. The operation management helps to select that particular location where distribution, production cost and location cost is less.
- 4) **Layout and material handling facilities:** Layout means positioning of machinery. The machine should be so arranged that the flow of production remains smooth. There should be a proper choice of material handling equipments.
- 5) **Capacity planning:** Capacity refers to a level of output of the conversion process over a period of time. Industry creates challenging problems in capacity planning, requiring in the long run, expansion and contraction of major facilities in the conversion process. Some tools help in capacity planning are marginal costing, linear programming etc.

Importance of Operation Management

- 1) **Towards customers:** Customers are the most affected by any business. The objectives of the operation management always depend on the customer's preferences and their requirements.
- 2) **Towards suppliers:** Operations will have a major impact on suppliers, both on how they prosper themselves, and on how effective they are at supplying the operation.
- 3) **Towards share holders:** Better the operation is at producing goods and services, the more likely the whole business is to prosper and shareholders will be one of the major beneficiaries of this.
- 4) **Towards employees:** Similarly employees will be generally better off if the company is prosperous. It includes the general working conditions which are determined by the way the operation is designed.
- 5) **Towards society:** Although often having no direct economic connection with the company individuals and groups in society at large can be impacted by the way its operation managers behave.

Production and Operation management

Meaning

It refers to the management of the conversion process which converts land, labour, capital and management inputs into desired output goods and services.

The conversion is done by using physical resources to meet the organizational objectives. It is the transformation of production and operation inputs and outputs to be distributed to meet the customers' needs.

Need for Production and Operation management

- i) **Produce right quality of product:** The quality of product is established based upon the