PRODUCTION

Production is a sequence of technical processes : requiring either directly or indirectly the mental and physical skill of craftsman and consists of changing the shape, size and properties of materials and ultimately converting them into more useful articles.

In short we can define the production as "an organised activity of transforming raw materials into finished products."

Production can also be defined as "producing goods which satisfies some human wants."

Methods of Production. Following are the three main methods (or types) of production :

(*a*) Job or Unit Production.
(*b*) Mass or Continuous Production.
(*c*) Batch or Quantity Production.

(*a*) **Job Production.** This is the oldest method of production on a very small scale. With this method individual requirements of the consumers can be met. Each job order stands alone and is not likely to be repeated. This type of production has a lot of flexibility of operation and hence general purpose machines are required.

Factories adopting this type of production, are generally small in size (ship building is an exception). The layout of such factories is made flexible so that different type of works can be easily and efficiently carried out with the slight adjustments.

Even in this age of industrialisation many things are produced on unit production. This type of production is used for things which cannot be produced on a large scale, things of high artistic nature requiring maximum attention, die work and foundary work etc. Man working in unit production gets an opportunity to produce large type of products and he can become expert in very short time.

Advantages

1. It is the only method which can meet the individual requirements.

2. There is no managerial problem, because of very less number of workers.

3. Such type of production requires less money and is easy to start.

4. There is less risk of loss to the factory adopting this type of production.

5. Because of flexibility, there is no chance of failure of factory due to the reduction of demand.

Disadvantages

1. There is no scope of commercial economy.

2. As the purchase of raw materials is less hence cost of raw materials amount to be slightly more.

3. For handling different types of jobs, only skilled and intelligent workers are needed, thus labour cost increases.

(*b*) **Mass Production**. This method of production is a large scale production and is a continuous production. In the method of job production, factory works only when orders are received and when orders are not received for some time then for that period work may come to a standstill. But mass production is a continuous production and it does not have any non-producing time.

This type of production requires specially planned layout, one-purpose machinery and costly jigs and fixtures etc. In this method with the use of automatic machines, articles automatically move forward from one stage to the next stage of manufacturing operation.

In mass production simplification and standardisation of products are made. With the help of specialised (one purpose) machines, articles of standardised nature can easily and economically be produced on a large scale.

Layout of the plant is such that it can be used for only one type of product. Sequence of flow of the product during manufacturing remains same. In this type of production different machines are assigned a definite nature of work. Throughout the run of the plant only one type of product can be manufactured.

To avoid the problem of material handling, use of mechanical means such as conveyors of different types, cranes etc. can be used.

Advantages

1. Mass production gives better quality and increased production.

2. Wastage is minimum.

3. As raw materials are purchased on a large scale higher margin of profits can be made while purchasing them.

4. Sales and advertising do not prove to be costly as their expenses are spread over thousands of articles produced, hence cost per unit is low.

5. Only few skilled and rest semi-skilled workers are required hence labour cost is reduced.

Disadvantages

1. During the period of less demand heavy losses on the invested capital may take place.

2. Because of all the machines used are one purpose machines therefore, this type of production is not changeable to other types of production.

3. Most of the workers handle only particular operation.. They may get skill in their job but after some time they feel bored with the repetition of same type of work.

4. As this type of production is on a large scale, therefore it can not fulfil individual taste. It produces things of standardised form which are demanded on a large scale.

(*c*) **Batch Production.** This type of production is generally adopted in medium size enterprises. Batch production is a stage in between Job production and Mass production.

Batch production is bigger in scale than the Job production while it is smaller than that of Mass production. Batch production requires more machines than that of Job production and less machines than that of Mass production. In Batch production some of the machines are one purpose machines and remaining are general purpose machines.

As in this type of production two or more types of products are manufactured in lots (*i.e.* batches) at regular interval, therefore this is known as Batch production. Most of the engineering concerns are adopting Batch production. In this type of production different products are manufactured and stocked and then sold on receipt of orders.

1. While comparing with mass production it requires less capital.

2. If demand for one product decreases then production for another product may be increased, thus the risk of loss is very less.

3. Comparing with job production, it is more advantageous commerically.

Disadvantages

1. Comparing with mass production, costof sales and advertisement per unit is more.

2. Raw materials to be purchased are in less quantity than that in mass production. Therefore, it is slightly costlier than that of mass production.

Main Contributors to Productivity Improvement

Following are the main contributors to productivity improvement in large number of industries.

1. *Incentives.* When incentive scheme is introduced in a concern, it results aconsiderable improvement in productivity. However, management must be careful about the correctness of the standards, limitations of the workers, short cut methods developed by workers, quality of work and overburdening of the equipment.

2. *Human Relations.* Good human relations help in cooperative behaviour from workers which results increase in productivity. Human relations can be improved by labour participation in goal setting, simplification of communication system minimising the conflicts, encouragement to get advantage of creative talents of employees and awarding reward etc.

3. *Cost Control.* Productivity can be increased by reducing the cost of production This can be done by keeping careful watch over expenditure, minimising wastage of material, reducing machine break-down period, reducing waiting time on the part of men and equipment, avoiding excessive handling, minimising overtime expenses.

4. *Training about Productivity.* Workers and supervisors may be trained about the measurement and benefits of productivity, so that the workers may start thinking creatively. The training must include the practice of work simplification, methods study, quality control, raw materials utility, productivity and its socio-economic effects.

5. *Application of New Technology.* In order to remain in field and increase its business in the age of competition, industrialists must regularly adopt new services, new marketing method more and more automation and application of latest techniques in the field of material handling, storekeeping and inventory control, bottlenecks in the flow process and introducing good management information system and feedback reporting system.

6. *Proper Planning and Scheduling.* Help to utilise men, machines and materials to increase productivity.

7. *Design the Product.* A good design of a product helps in minimising wastages of scraps and increase its durability and attraction.

8. *Management Skill.* Good supervision and management avoids production inefficiency maintenance and incorrect specifications for materials and machines. It provides good working conditions and better co-ordinations and good relations.

9. *Standardisation and work simplification* increases production efficieney.

Benefits from Increased Productivity