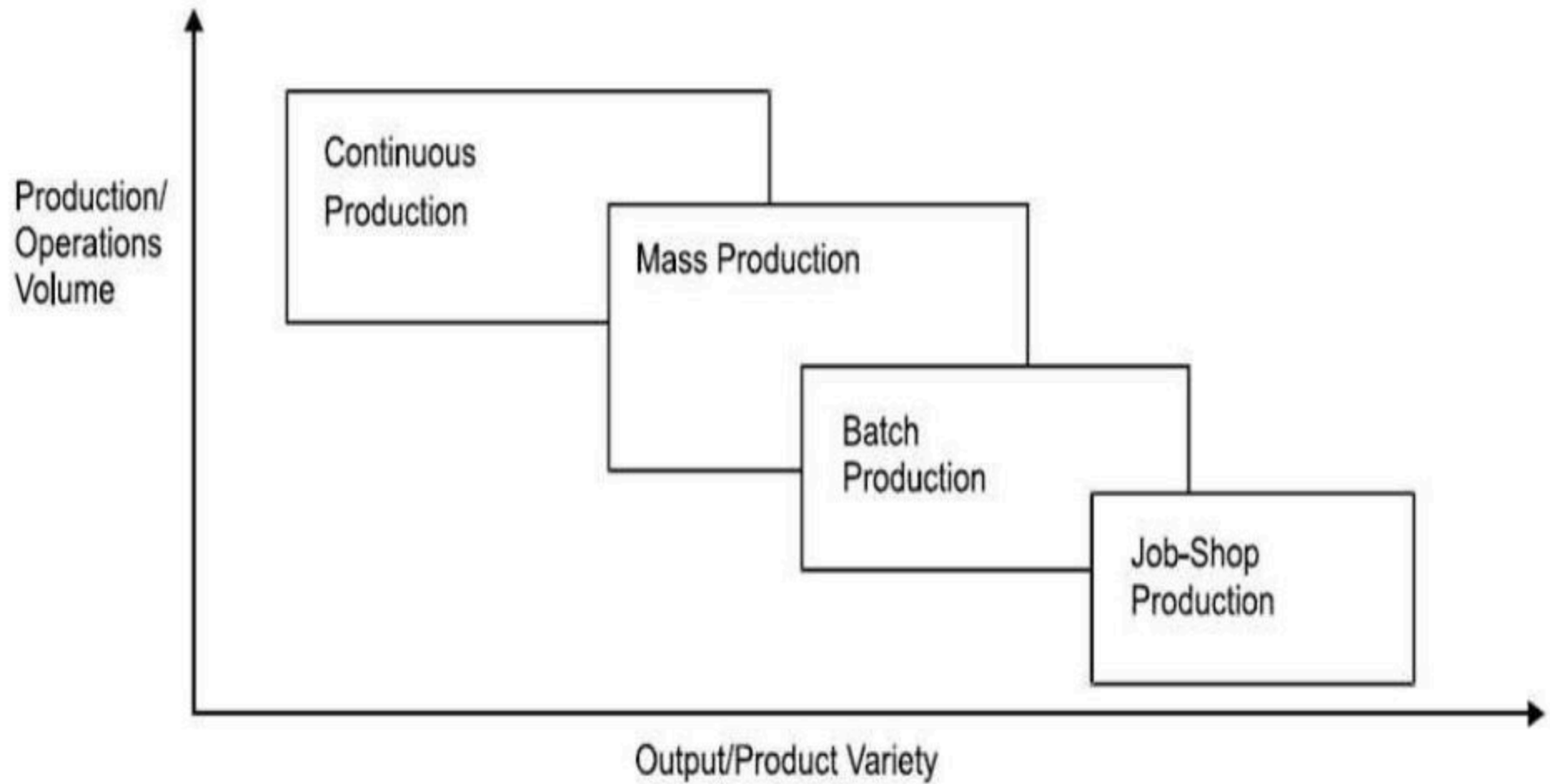


Characteristics Of Production System

- 1. Production is **an organized activity**, so every production system has **an objective**.
- 2. The system **transforms** the various Inputs to useful Outputs.
- 3. It doesn't operate in **Isolation** from the other organization system.
- 4. There exists a **feedback** about the activities, which is essential **to control and improve system performance**.

CLASSIFICATION

- **Production systems can be classified as:**
 1. Job Shop Production
 2. Batch Production
 3. Mass Production
 4. Continuous Production



Classification of production systems

JOB SHOP PRODUCTION

- Job shop production are characterised by manufacturing of **one or few quantity of products designed** and produced as per the specification of customers within **prefixed time and cost**.
- The distinguishing feature of this is **low volume & high variety of products**.
- A job shop comprises of **general purpose machines** arranged into **different departments**.
- Each job **demand unique** technological requirements, demands processing on machines in a **certain sequence**.

Characteristics

- 1. **High variety** of products and low volume.
- 2. Use of **general purpose machines** and facilities.
- 3. **Highly skilled** operators who can take up each job as a challenge because of uniqueness.
- 4. **Large inventory** of materials, tools, parts.
- 5. **Detailed planning** is essential for sequencing the requirements of each product, capacities for each work centre and order priorities.

ADVANTAGES

- 1. Because of general purpose machines and facilities **variety of products** can be produced.
- 2. Operators will **become more skilled** & competent, as each job gives them learning opportunities.
- 3. **Full potential of operators** can be utilised.
- 4. Opportunity exists for **creative methods & Innovative ideas**.

LIMITATIONS

- 1. **Higher cost** due to frequent set up changes.
- 2. **Higher level of inventory** at all levels and hence higher inventory cost.
- 3. Production planning is **complicated**.
- 4. **Larger space** requirements.

BATCH PRODUCTION

- Batch production is defined “*as a form of manufacturing in which the job passes through the functional departments in lots or batches and each lot may have a different routing.*”
- It is characterised by the manufacture of **limited number of products** produced at regular intervals and **stocked awaiting sales.**

CHARACTERISTICS

- 1. There is **shorter production runs**.
- 2. Plant and machinery are **flexible**.
- 3. Manufacturing lead **time & cost are lower** as compared to job shop production.

ADVANTAGES

- 1. **Better utilisation** of plant and machinery.
- 2. Promotes **functional specialisation**.
- 3. **Cost** per unit is **lower** as compared to job shop production.
- 4. **Lower investment** in plant and machinery.
- 5. **Flexibility** to accommodate and process **number of products**.
- 6. **Job satisfaction** exists for operators.

LIMITATIONS

- 1. **Material handling is complex** because of irregular and longer flows.
- 2. **Production planning and control** is complex.
- 3. Work in process **inventory is higher** compared to continuous production.
- 4. **Higher set up costs** due to frequent changes in set up.

MASS PRODUCTION

- *‘ Manufacture of discrete parts or assemblies using a continuous process are called mass production ’.*
- This production system is justified by **very large volume of production.**
- The machines are arranged in a **line or product layout.** Product and process standardisation exists and all outputs follow the **same path.**

CHARACTERISTICS

1. Standardisation of product and process **sequence**.
2. **Large** volume of products.
3. Shorter cycle **time** of production.
4. Lower in process **inventory**.
5. Perfectly balanced **production lines**.
6. Production planning and control is **easy**.
7. Material handling can be completely **automatic**.