

1 Production 1

A Production management is concerned with **planning** and **controlling** industrial processes which **produce** and **distribute** products and services. Techniques of production management are also used in service industries; here they are called **operations** management. During production processes, **inputs** are **converted** into **outputs**. These processes take many forms: from basic agriculture to large-scale **manufacturing**. Much manufacturing takes place in **factories**, where **assembly lines** allow a steady **flow** of **raw materials** (inputs) and **finished products** (outputs).

People in production focus on **efficiency** and **effectiveness** of processes in order to maximize **productivity**. To achieve overall success, it is important to **measure**, **analyse** and **evaluate** these processes. However, other activities also contribute to success: **purchasing**, **inventory control**, **quality control**, **storage**, **logistics**.

B Production varies according to the inputs, *processes* and outputs. Other important factors are the *place* of production and the *resources*. In addition, *stock*, a major cost, needs to be carefully controlled, and the equipment must be regularly *maintained* to remain productive and prevent breakdowns.

Production place

factory • layout • plant • site • unit • workshop

Process

assemble • batch • component • convert • effectiveness
efficiency • line • lot • maximize • optimize

Resources

equipment • fixtures • machinery • materials handling • raw materials

Stock

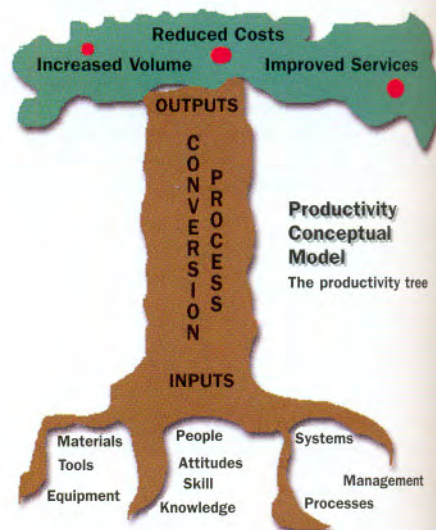
inventory • stock • store

Maintenance

breakdown • failure • fault • maintain • repair

C Study the *Productivity Conceptual Model* below:

A simple way of looking at productivity in a business organization is to think of it in terms of the productivity model. The *Productivity Conceptual Model* below takes the form of a 'productivity tree'. The roots denote the inputs to the system, the trunk the conversion process and the leaves and fruit the system outputs.



TASKS

1 Match the words that go together and then complete the sentences below.

quality	material
finished	manager
industrial	lines
production	process
large-scale	levels
assembly	control
raw	products
productivity	manufacturing

- 1 Improved _____ has led to higher efficiency in production.
- 2 The manufacture of paper is an _____.
- 3 Crude oil is the basic _____ for the plastics industry.
- 4 Increased _____ have reduced the number of manufacturing workers.
- 5 The large warehouse is used to store _____ waiting for delivery.
- 6 Large car manufacturers use _____ in production.
- 7 The company began in a single room but has now developed into _____.
- 8 The manufacturing process is the responsibility of the _____.

2 Complete the sentences below. The first letter of the missing word has been given.

- 1 A quantity of goods prepared at the same time is known as a b_____.
- 2 To put parts together to produce the final product is to a_____.
- 3 Production processes convert inputs to o_____.
- 4 The process of buying inputs is known as p_____.
- 5 A part which is used in the final product is called a c_____.
- 6 To get the best possible level of production is to o_____.

3 Here is part of a memo from a company director to the production manager. Complete it with words from the box.

faulty • equipment • repair • site • workshops • factory • stock
breakdowns • layout • maintain • fixtures • machinery

MEMO

From Robert George

To Sarah Bridge

Re Premises

We are making good progress with the new (a) _____ development. A new (b) _____ close to the river has been acquired. Designers are currently working on the (c) _____ of the area and exact location of the factory building. All (d) _____ and fittings will be carried out by Alan Shores Ltd. The new manufacturing (e) _____ has been ordered and we hope to be able to install it ahead of schedule. New (f) _____ will be purchased for the engineering (g) _____ once they have been completed.

The present machinery is old and several (h) _____ recently have caused production backlogs. We will continue to (i) _____ and (j) _____ these machines until the new ones are up and running. I would ask you to carry out a full (k) _____ inventory as soon as possible. Any (l) _____ goods should be removed from store and disposed of.

2 Production 2

A

A production planning system is essential to ensure that a company's processes, **machinery**, equipment, labour skills and **material** are organized efficiently for better profitability. There are many factors that need to be considered in the planning system. For example, a firm may require a large number of different **components**. Also **demand** can vary daily in this ever-changing world. New sales orders come in. Some get cancelled; there may be **breakdowns** in the **workshop**; **backlogs** build up; there may be late or early **delivery** from suppliers. It is difficult to keep track of all these changes manually. To handle these situations, many companies keep safety **stock**. However, if a company has an effective production planning system there is no need to keep high safety stock. The money blocked in the excessive safety stock can be released. At the same time, opportunity costs due to **stock-outs** can be minimized.

B

All areas of management require careful *planning* and *organizing*. Planning and organizing production is essential for efficient operations.

Planning

aggregate • backlog • back order • bottleneck • capacity • cycle • downtime
flow • forecast • idle • lead time • make-to-order • make-to-stock
optimization • output • productivity • prototype • requirement • run • **satisfy**
schedule • sequence • set up • set-up time • slack • throughput • uncertainty
update • work in progress

Work organization

lot • overtime • shift • workforce • workload

C

Study the *Market Needs Analysis Model* below:

There are two principal aims of the *Market Needs Analysis Model* below:

- to identify market needs for your product
- to analyse the market potential for new products or services

The product performance specifications detail the operational features of the product.

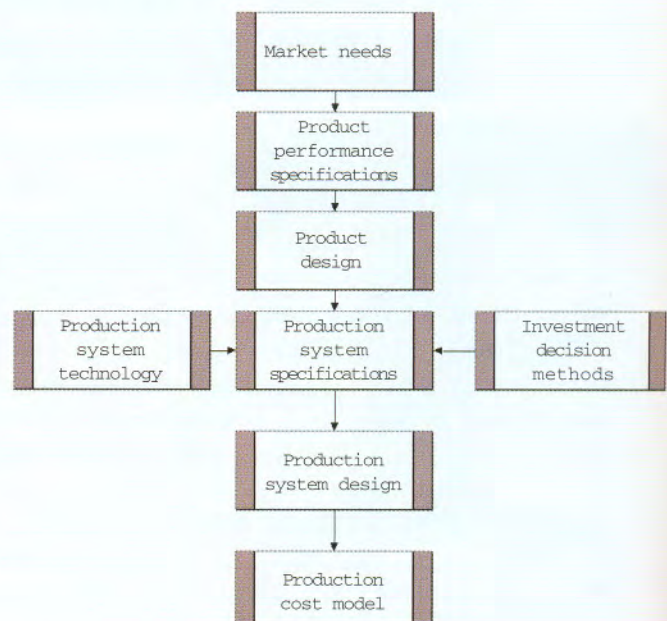
At the product design stage, designers and product managers will redefine how the product is to work and how it is to be made.

At the production system specifications stage, we focus on the manufacturing requirements.

Investment decision methods focus on the alternative methods for financing the investment needed.

The objective of production system design is to standardize both the methods of production system design and the machine units for production system construction.

A production cost model calculates production costs and capacity factors.



1 Choose the correct answer in the following.

- 1 Recent faults with machines have cost the company a great deal of _____.
a) maintenance b) slack time c) downtime
- 2 Once the mock-up of the new design has been tested, we can build the _____.
a) prototype b) update c) set up
- 3 It's unprofitable to manufacture small quantities because of the machine _____.
a) lead time b) set-up time c) sequence
- 4 The production manager has to produce a production _____ for the next four weeks.
a) set up b) schedule c) output
- 5 Once the order has been agreed and production begun, the designer is still responsible for the _____.
a) work in progress b) workload c) back order
- 6 These items are produced together as one _____.
a) cycle b) delivery c) lot

2 Match the correct word with each definition.

workload	the movement of materials through a production system
workforce	an order from an earlier time which hasn't been produced yet
back order	the volume of goods which are produced
material flow	something that is needed for a particular process
throughput	the series of activities following one another to produce a product
output	the amount of work that has to be done
cycle	the volume of goods that can be dealt with in a certain period of time
requirement	all the people who work in a particular company

3 The works manager is showing a group around the factory. The letters of the missing words are mixed up. Complete the dialogue with the missing words.

We're not particularly busy at the moment. Believe it or not, the (a) _____ (manedd) for furniture is seasonal.

So, do you (b) _____ (kaem-ot-osckt)?

Well, all our units are made- (c) _____ (ot-reord). However, we make components-to-stock.

When are your busy times?

Normally from September to May but there is always a great deal of (d) _____ (cerunintyta) and it's difficult to (e) _____ (recatfos) sales trends.

So does the (f) _____ (adel mite) vary?

No, not really. Our (g) _____ (adel mite) is usually 8 to 10 weeks. When we are very busy, the workforce usually do (h) _____ (mitevero) to try to avoid a (i) _____ (lockbag) of orders. If necessary we introduce a (j) _____ (fisht) system when we're working at full capacity to avoid (k) _____ (beckslotten) at key machines.

During a busy period do you have (l) _____ (toskc-tous)?

Seldom. We use the time when work is (m) _____ (lacks) to build up stock of components. We don't like machines or workers to be (n) _____ (lide)!