

Operations Management

A-Level Business ■ Topic 4

A-Level Business

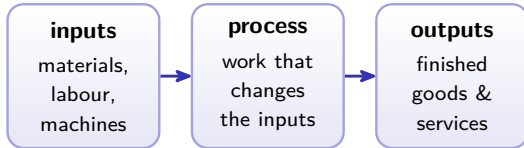


What we will cover

- 1 The transformation process
- 2 Methods of production
- 3 Inventory control
- 4 JIT & capacity
- 5 Outsourcing
- 6 Recap



The transformation process



output worth more than inputs $\Rightarrow$ value added



capital intensive factory

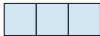
Methods of production

job



one unique
item at a time

batch

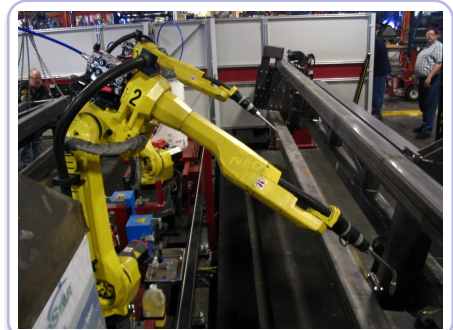


a group, then
switch to another

flow



a non-stop
line



capital robots

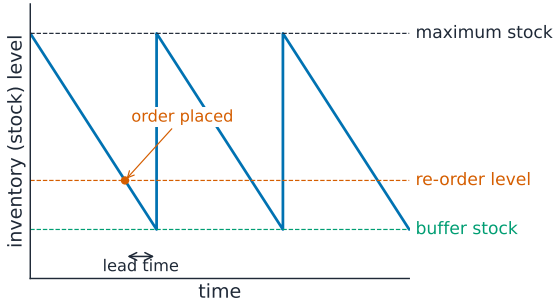
Sustainability and technology

Sustainability 可持续性: meet today's needs without harming the future – cut waste, use less energy, recycle.

Automation 自动化 raises output & quality and lowers cost, but has a high set-up cost and can replace jobs.



Inventory control



job production

potter

Just-in-time vs just-in-case



just-in-time
(almost no stock)

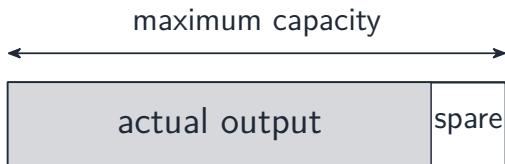


just-in-case
(extra buffer stock)



productivity line

Capacity utilisation



$$\text{utilisation} = \frac{\text{actual output}}{\text{maximum output}} \times 100\%.$$

Aim high but not full (~85–90%):
low leaves idle resources; 100%
leaves no time to repair.

Outsourcing

Outsourcing 外包 pays another firm to do work you used to do (cleaning, IT, parts).

+ cheaper, focus, flexible

– less control, delays, secrets

Worked example – labour productivity

A factory of 20 workers makes 800 units in a day. Find the output per worker.

- Labour productivity = $\frac{\text{total output}}{\text{number of workers}}$
- $= \frac{800}{20} = 40$ units per worker per day
- Higher productivity cuts the labour cost per unit, so it improves competitiveness.
- Raise it by training, better capital, or motivation – not by simply hiring more.

Productivity is output **per worker**, not total output. Hiring more raises output but leaves productivity unchanged – that distinction earns marks.

Topic 4 – key takeaways

1

Operations

inputs → process → outputs;
productivity

2

Production

job, batch, flow, mass
customisation

3

Inventory

re-order level, buffer; JIT vs JIC

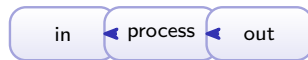
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Capacity

utilisation; aim high not full

Check yourself

- 1 Which production method suits a one-off item?
- 2 What is buffer inventory for?
- 3 Main risk of just-in-time?
- 4 Capacity utilisation if output is 80 of 100?



Answers 1. job production 2. safety stock for delays/extra demand 3. a late delivery stops production 4. 80%