

4 What operations management does – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)		
Operations	运营	_____	_____	_____
Operations management	运营管理	_____	_____	_____
inputs	投入	_____	_____	_____
outputs	产出	_____	_____	_____
transformation process	转化过程	_____	_____	_____
add value	增值	_____	_____	_____
Productivity	生产率	_____	_____	_____
Efficiency	效率	_____	_____	_____
job production	单件生产	_____	_____	_____
batch production	批量生产	_____	_____	_____
flow production	流水线生产	_____	_____	_____

Recall

Every business has to **make** its product or deliver its service. Bring this with you:

- A business turns materials and work into finished goods.
- Doing this with less waste saves money.

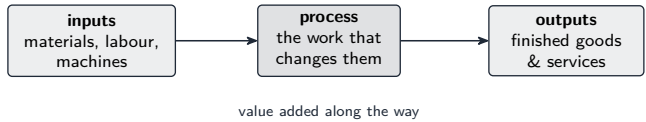
At AS we study **operations** — the part of a business that makes the product.

New ideas

■ 1 The transformation process

Operations 运营 is the part of a business that makes the product. **Operations management** 运营管理 turns **inputs** 投入 into **outputs** 产出 — the **transformation process** 转化过程:

- **inputs** — raw materials, labour, machines and money;
- **process** — the work that changes the inputs;
- **outputs** — finished goods and services for the customer.



Good operations **add value** 增值 — the output is worth more than the inputs used to make it.

Micro-check. State the three parts of the transformation process. [1]

■ 2 Productivity and efficiency

Productivity 生产率 measures how much output you get from your inputs:

$$\text{productivity} = \frac{\text{output}}{\text{input used}}$$

Efficiency 效率 means making products with as little waste of time, materials and money as possible. Higher productivity and efficiency **lower the cost of each unit**.

Micro-check. A worker makes 40 units in 8 hours. State their productivity per hour. [1]

■ 3 Methods of production

A firm chooses how to organise production:

- **job production** 单件生产 — making one unique item at a time (a wedding cake, a bridge);

- **batch production** 批量生产 — making a group of the same item, then switching (bread in flavours);
- **flow production** 流水线生产 — making items non-stop on a line (bottled drinks, cars).

job one unique item (a wedding cake)	batch a group, then switch (bread in flavours)	flow non-stop on a line (bottled drinks)
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Job production is flexible but costly per unit; flow production has a low unit cost but needs high, steady demand.

Micro-check. Which method makes items non-stop on a line? [1]

Watch out: productivity = output ÷ input (output per worker or hour); higher productivity *lowers* the cost per unit. Job production is flexible but costly per unit; flow production has a low unit cost but needs high, steady demand.

Practice

4.1 State what **operations management** does (use the words *inputs* and *outputs*). [2]

4.2 A factory makes 600 units using 200 hours of labour. Find the productivity per hour. [2]

4.3 State what **efficiency** means in operations. [1]

4.4 State which method of production each suits: (a) a one-off bridge; (b) millions of identical cans. [2]

4.5 Give **one** advantage of flow production and **one** of job production. [2]

4.6 Challenge. Factory A makes 600 units with 200 labour-hours; Factory B makes 900 units with 360 labour-hours. Work out which is more productive per hour. [2]