

Introduction – the nature of operations

‘Operations’ is concerned with the:

- use of resources called **INPUTS** – l _____, l _____, c _____
- to provide **OUTPUTS** in the form of g _____ and s _____

In doing this, **operations** must be **concerned** with:

- **Efficiency of production**

- **Quality**

- **Flexibility**

Essentially, operations are aiming to:

The production process

Inputs are converted or transformed into **outputs** – sometimes called the ‘transformation’ process

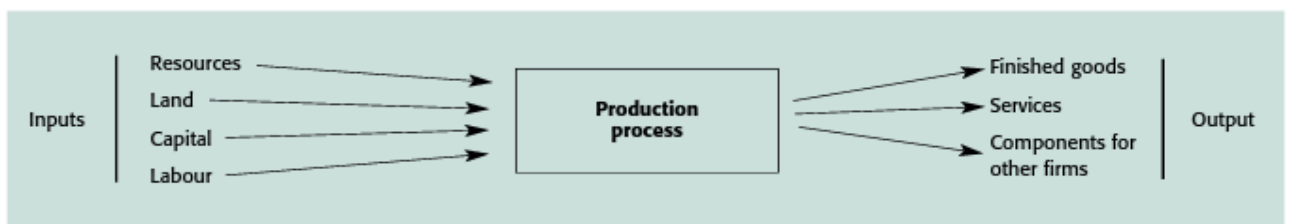


Figure 20.1 The production process

- This process applies to m _____ and s _____ industries.
- By ‘**production**’, we mean:

<i>tangible goods</i>	<i>intangible services</i>

What will the operations process involve in its many stages before physically selling the good or service?

Give an example of one of the stages:

Resources:

What are the production inputs? Give an example of each

Production and productivity

KEY DEFINITIONS

- production** converting inputs into outputs
- the level of production** is the number of units produced during a time period
- productivity** the ratio of outputs to inputs during production, e.g. output per worker per time period

Productivity is NOT the same as the level of production –

Production is an **ABSOLUTE** measure of the **QUANTITY** of output that a firm produces in a given PERIOD of time

Productivity is **RELATIVE** measure – concerning how **EFFICIENTLY** inputs are **CONVERTED** to outputs

The most common measures of productivity is:

$$\text{labour productivity (number of units per worker)} = \frac{\text{total output in a given time period}}{\text{total workers employed}}$$

$$\text{capital productivity} = \frac{\text{output}}{\text{capital employed}}$$

Nearly all firms are trying at all times to increase **PRODUCTIVITY**, even if the total production level is not increasing. **WHY? HOW?**

[Empty response area for the question above]

	Number of furniture units produced	Number of workers employed	Labour productivity = output/workers	Annual pay per worker	Labour cost per unit = annual pay/labour productivity
Company A	5,000	10	500	\$2,000	\$4
Company B	12,000	20	600	\$2,000	\$3.33

Table 20.1 The higher the level of labour productivity, the lower the labour cost per unit produced – assuming the pay per worker is the same

There are **four** main ways of raising productivity levels – List these and highlight their particular benefits and drawbacks

[Empty response area for the question above]

	Number of pizzas produced each week	Number of workers employed	Weekly pay per worker
Rapid Pizza	3,000	15	\$60
Pizza to Go	3,960	18	\$60
Pizza4U	6,600	25	\$66

[AS/A level – 18 marks, 20 minutes]

- 1 Calculate the labour productivity in all three businesses. [6]
- 2 Outline **three** reasons for the different levels of labour productivity. [6]
- 3 Explain the importance of labour productivity to the manager of Rapid Pizza. [6]

Is **raising productivity** always the answer?

Unpopular products –

Higher wage demands –

Workers and union concerns over jobs

Quality of management

Difference between efficiency and effectiveness

Efficiency and effectiveness

Efficiency is measured by

Effectiveness is achieved only if

Effectiveness means

efficiency producing output at the highest ratio of output to input
effectiveness meeting the objectives of the enterprise by using inputs productively to meet customers' needs

Labour intensity and capital intensity:

Operations managers must decide what combination of factors of production they will use:

There are **TWO** main approaches and examples are:

Consider the bakery industry:

The problems associated with capital intensive are:

In conclusion -

Activity 20.2: Westlife jeans

1. Explain how it is possible for a firm to reduce its level of production but increase its labour productivity.

2. Explain the difference between efficiency and effectiveness for a private dentist's business.

3. Explain the resources that will be needed by a farmer to produce wheat.