APPLIED

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WJEC Level 3 Applied Diploma in

BUSINESS

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UNIT 3
ORGANISATIONAL STRATEGIES AND DECISION MAKING

CONTENT THEORY
COMPANION RESOURCE



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AC1.1 Explain the purpose of formulating organisational strategy

Businesses have aims and objectives. An aim is what a business broadly wishes to achieve in the future from its trading operation. For example, survival, profit, growth, new brand development, new market creation or some form of societal good are some of the common aims a business may adopt. Objectives are specific measurable targets that will enable a business to work towards achieving its aim on a daily trading operational basis. Fulfilment of short or medium-term objectives lead to fulfilment of a long-term aim by an organisation, eventually. Ideally, objectives should be SMART.

A strategy is a plan that will enable a business to achieve its aim and objectives. All businesses change their strategies over time based on available finances plus prevailing market opportunities and threats. Frequency and degree of change varies from business to business though.

Strategies are long-term and forward-looking plans.

Strategy is the way a business operates in order to achieve its aims and objectives. There are two sides to strategy - the first is formulation and the second is implementation.

The formulation of strategy is basically the same thing as constructing a business plan. Implementation is putting the plan into practice. A plan should not be rigid; it should be sufficiently flexible to allow for changing circumstances. It should include a feedback loop to regularly check if the plan is working and adapting it as and when necessary.

Businesses should attempt to create objectives which are achievable in its existing business environment (in line with the SMART model). A business that sets an objective of increasing market share from 10% to 30% in 12 months is probably being unrealistic but an increase to 15% may be more achievable, depending on the circumstances. So, business strategy should always be set in relation to the environment the business operates within but also related to internal factors such as financial resources, brand strength, skills of management, employees and so on.

The setting and achievement of objectives within a large business is a hierarchical process, which starts at the top with the setting of a corporate strategy and is put into action by business functions that design strategies to fulfil objectives:



Corporate strategy

Corporate level strategy is concerned with the strategic decisions a business makes that affect the entire business. At the corporate level, strategy is concerned with setting objectives for overall financial performance, proposed mergers or acquisitions, long term human resource planning and the allocation of resources to different business divisions.

Strategic direction

Strategic direction is a course of action that ultimately leads to the achievement of the stated goals of the corporate strategy. Once the corporate strategy is established then the strategic planning that follows is used to establish the strategic direction i.e., sets out in broad terms how the objectives will be achieved. The strategic plan created will normally contain a clear mission statement but beyond this describes the businesses' objectives, which divisions or functions need to be focussed on to achieve these objectives and makes clear methods of measuring achievement of objectives.

Divisional strategy

The next level of business strategy is concerned with directing the divisions (often functional or geographical in structure) within the organisation. The overall corporate strategy will be communicated to the divisional managers. This information shapes the plans the divisional managers create. For example, if the corporate strategy focuses on rapid growth in demand for the company's products or services, the strategies the divisional managers generate would be tailored to meet this demand. In this scenario the sales division strategy may include growth in sales teams, the production strategy including increased need for inputs and production capacity.

Functional strategy

Functional strategy relates to a single functional operation such as: production, marketing or HRM and the activities involved within each of these functions. The decisions made at this level of strategy are guided and limited by the higher level corporate and divisional strategies and will support these strategies. For example, the business's marketing strategy, which will be a functional strategy, will be guided by objectives established at corporate level and made clear at divisional level. It is the responsibility of the functional managers to develop the systems and applications that allow the achievement of corporate and divisional strategies.

The organisational strategy adopted by a business will be influenced by a number of factors:

- Mission statement – a mission statement is a broad statement of the purpose and values of an organisation. It will guide the everyday operations and is the foundation stone of an overall strategy, which is followed through into the development of more specific functional strategies such as a finance strategy and a marketing strategy. Naturally, the founder or founders of a business will have a bearing on its mission statement, given that the enterprise is an embodiment of their ideas and values.

- Products – products are the market offering of a business. Most businesses have multiple products in the form of a product portfolio. The nature of the product or product range a business offers for sale will have an influence on the overall strategy of the business. For example, is the product popular, is it a leading brand, are new versions of the product being developed and brought onto the market, is there a loyal customer following for the product, is the product unique, can the business diversify and introduce new products?

- Markets – businesses must have a market for their products. Markets contain customers and competitors in the form of other businesses. Markets come in different types – consumer markets, trade markets, mass markets, niche markets, electronic markets, stock markets, livestock markets, amongst others. The degree of competition in a market is a significant strategy consideration. Some markets are competitive and prove difficult for a business to enter and remain within, others are uncompetitive and prove easy for a business to enter and remain within. The level of competition within a market will give opportunities and threats to a business, all businesses have to consider this external factor on their operations when formulating and implementing their strategies.

- Information sources – a strategy should always be based on reliable information. Market research generates such information. The information sources include the business itself, customers, competitors, government, market research organisations and mass media. In the main, the GIGO principle holds true for information sources. Insomuch, 'Garbage' information 'In' leads to 'Garbage' 'Out' in terms of a successful strategy.

Range and purposes

Finance and marketing are pivotal functions in most businesses.

Finance is concerned with the control of money within an organisation. For obvious reasons, financial management is very important for a business and having a clear and defined financial strategy will help the business achieve it financial aims and objectives. The financial strategy will aim to make sure the business utilises its available money in an efficient and solvent way and has sufficient and regular income whilst controlling the costs to the business.

Marketing is concerned with selling and promotion of products and service. Marketing is essential to a business in a competitive and dynamic environment and businesses will develop an overall marketing strategy to pull together all its marketing activities into one cohesive plan. Market research may play an important role in making sure the business has the right product mix, pricing, promotional activities and distribution to utilise the market opportunities to increase sales and strengthen the market position with products and services that keep customers loyal.

Specific financial strategies and marketing strategies tend to be variations of the following

- Financial strategy
  - Seeking financial sources
  - Management and usage of capital
  - Meet financial obligations in the form of solvency
  - Be profitable or surplus generating
  - Be liquid in the form of being able to turn assets into cash
  - Align financial management and performance with overall business objectives

- Marketing strategy
  - Gain sustainable competitive advantage
  - Develop and offer products and services that result in profit
  - Identify opportunities to increase sales and customer base
  - Plan the nature and features of products and services
  - Turn prospective consumers into customers
  - Use effective and profitable pricing strategies

- Increase brand recognition
- Effective distribution to the customer
- Plan, implement and review marketing budgets
- Align marketing activities and performance with the overall business objectives

Strategies interrelationship and interdependence

There is an important interrelationship and interdependence within the various organisational strategies such as the finance strategy and the marketing strategy. For instance, finance must source the money for marketing to promote a product, the promotional campaign will hopefully result in increased sales which finance will monitor and record and in turn use that money to pay other expenses, shareholders dividends or again reinvest in another marketing activity.

Finance and marketing, along with other functions of the business need to work together to ensure the overall mission, aims and objectives are achieved. These functions cannot operate in isolation. They have to work together to ensure the success of the business. Functional strategies will only work if they are linked with each other and contribute to the overall business strategy. Decisions in one function will affect the outcomes in another part of the business.

Likewise, bad decisions in one functional area will have consequences in another. For example, if the marketing strategy was to enter new international markets and the business failed to get a foothold in the new market with low sales revenue resulting in a substantial loss, this will impact negatively on the financial strategy as the projected income stream of money into the business never occurred and resulted in using up reserves of money that can now not be used elsewhere in the business.

A business needs to coordinate the different functional strategies in order to make sure the whole
business is working together to achieve its aims. The business works best when the functions
overlap and everybody works together.

AC1.2 Explain how information about profitability, liquidity and solvency can be used by organisations

Profit and profitability

A business must profit from its product, especially if it is a for-profit business as opposed to a not-for-profit business.

Profit is a measure of the amount a business profits from its products. To achieve profit the total revenue of a business must be greater than its total costs (Profit = Total revenue - Total costs).

Revenue is the money or income a business receives from selling its products or services. It is calculated by multiplying the quantity of products or services sold, by the price of the product or service. It is also called sales revenue or sales turnover.

For example, if a window cleaner charges £8 per household and cleans the windows of 200 houses per week, then the weekly revenue for the window cleaner is £1 600 (£8 x 200).

The annual revenue (assuming that the window cleaner continued cleaning windows at the same rate and number of houses) would be calculated as: £8 per house x 200 houses x 52 weeks, giving total annual revenue of £83 200.

Costs are the money that businesses spend to operate the business. A business will have many
costs to pay in order to run the business. These include rent, loan repayments, wages, buying
equipment, buying stock and materials, power (electricity), advertising, paper and so on.

Profit is calculated by deducting total costs from total revenue.

For example, if total revenue is £150 000 and total costs are £130 000, then profit is: £150 000 – £130 000 = £20 000

Profitability is profit performance in relation to sales revenue or the money invested into the business. It is the ability to use the business resources to create profit. Where profit is an absolute number, profitability is a relative number and considers the profit in relation to the size and total revenue of the business. It is expressed in percentage terms.

A business with higher profitability (percentage) is more efficient, in as much as it is generating a higher percentage of profit for the money invested and spent. In other words, profitability is a measurement of the businesses ability to generate revenue compared to the costs it incurs.

For example:

Business A makes £4 000 000 in revenue and has costs of £3 800 000 resulting in a profit of £200 000. Business B makes £1 000 000 in revenue and has costs of £800 000, so also resulting in a profit of £200 000. Both businesses make the same profit, but are they equally profitable?

No, they are not, Business B is more profitable as it spent less resources (money) to make its profits and are in a stronger position then Business A.

The main profitability ratios include:

- Gross profit margin % = (Gross profit / Sales revenue) * 100

To calculate gross profit margin, two figures are needed: sales revenue and gross profit.

For example, if sales revenue for a company is £120 000 and gross profit is £50 000, then the gross profit margin is:

$$\frac{£50\,000}{£120\,000} \times 100 = 41.67\% \text{ (2.d.p.)}$$

- Net profit margin % = (Net profit / Sales revenue) * 100

To calculate net profit margin, two figures are needed: sales revenue and net profit.

For example, if sales revenue for a business is £170 000 and net profit is £32 000, then the net profit margin is:

$$\frac{£32\,000}{£170\,000} \times 100 = 18.82\% \text{ (2.d.p.)}$$

- Return on capital employed % = (Net profit / Capital employed) * 100

To calculate return on capital employed (ROCE), the following information is needed: net profit and capital employed.

For example, if net profit for a business is £15 000, the capital employed is £130 000, then the return on capital employed is:

$$\frac{£15\,000}{£130\,000} \times 100 = 11.54\% \text{ (2.d.p.)}$$

With reference to all these profitability ratios: the higher % the better for the owners, partners or shareholders – who have risked their financial capital in investing in an organisation, thus want to be rewarded in the form of profit. The percentages can be compared over time for one business to see if it is becoming more profitable or with other businesses to see which business is the most profitable.

Margins and mark-up

To ensure profit and profitability, a business must get its margins and mark-up right. A higher mark-up means a higher margin. A simple rule of business is to sell a product for more than its costs to produce or provide it, we have already looked at profit margins and the capital employed margin.

The margin is the ratio of profit to revenue. Mark-up is the ratio of profit to cost.

Mark-up, which is usually carried out for one product, is the difference between the cost of a product and its sales price. It is the percentage amount by which the cost of a product is increased to arrive at the selling price. The focus is how much more a business is selling the product for against the cost of providing the product.

$$\text{Markup} = \frac{\text{profit}}{\text{cost}} \times 100\%$$

For example, a business sells a product for £3, the total cost in providing the product is 50p. the profit per product is £2.50 and the mark up is 500%

A business can also calculate its selling price if it has a particular markup amount and knows its costs, for example:

The cost of producing one product for a business is £0.80. The business wants to add a 30% mark up for the product, so its selling price is £1.04 (£1.04 = £0.80 * 1.30). The profit is 24p.

Its margin is 23.08% [23.08% = (0.24 / 1.04) *100).

Mark-up is used as a pricing strategy in some industries (known as cost-plus pricing) and different markets will have different levels of mark-up that is expected and accepted by customers.

Cash and liquidity and solvency

Cash is king or queen in business! Cash refers to all the money that a business has that can be used immediately and normally this would mean the money it has in its bank account. Ideally, a business should have a positive and sizeable cash balance at all times, due to a positive cash flow. That is to say, the cash inflow into the business is greater than the cash outflow from the business. After all, cash is the most liquid of current assets. However, the unpredictable nature of markets make it difficult to achieve a positive and sizeable healthy cash balance at all times.

Liquidity refers to how quickly an asset can be converted into cash. Money in the bank, or held in cash, is the most liquid asset. Other liquid assets are stock the business holds and debtors (people who owe the business money); of these it is likely that stock is the least liquid. Liquidity is a measure of the business's ability to pay its short-term debts.

It is important that businesses have a good level of liquidity. If businesses are unable to pay their creditors, then the owner may find that the supplies of stock or raw materials are stopped, or they may find that the bank stops their cheques. In this sort of situation, the business may be forced to stop trading. So, the management of liquidity is very important.

A business may face liquidity problems, in that it has little amounts of cash to pay its debts, but if the business has high levels of assets, such as stock, equipment and buildings, then the short-term liquidity problems it faces shouldn't be a big problem as they can use these assets to either secure short-term finance or sells some assets to improve its liquidity.

Solvency is the ability of a business to meets its long-term debts. A business is solvent by maintaining its liquidity. A business faces insolvency when it is unable to ease its debts, it may have no cash or few assets and unable to borrow extra finance. A business may cease trading and become bankrupt if it remains insolvent over a period of time.

Two ratios can be calculated to help a business understand its liquidity position:

- Current ratio = (Current assets/Current liabilities)

To calculate the current ratio, two figures are needed: total current assets and total current labilities.

The answer is given in the form X : 1, where X is the result of the above formula. Therefore, expressed in this form, the answer shows the proportion of current assets a business has in relation to their liabilities

For example, a business has current assets of stock £15 000, Debtors £10 000 and cash £17 000. It also has current liabilities of £28 000.

$$\frac{£42\,000}{£28\,000} = 1.5:1$$

This means that the business has 1.5 times as many current assets in proportion to its current liabilities (or put another way, it has £1.50 current assets to every £1 of current liabilities).

It is generally thought that the ideal for the current ratio should be somewhere between 1.5:1 and 2:1. A current ratio of below 1.5:1 is considered less than ideal and may be due to over borrowing. A current ratio over 2:1 is also not ideal as it suggests too much money is just sitting around and not being used productively.

It is important to not treat the above figures as a fixed rule. Some businesses happily survive on low current ratios. These are businesses with a high level of stock turnover, who deal in cash. Good examples of this type of business are supermarkets; Tesco survives on a current ratio of about 0.5:1. In some circumstances, the current ratio can be regarded as being too high. For example, a current ratio of 3:1 may indicate that the business is holding a great deal of cash or stock that could be better used by the business if it was turned into some form of fixed asset to facilitate greater production capability.

The current ratio has one main failing as a tool of analysis, which is that it includes stock which may not be a very liquid asset i.e. it may not be turned into cash easily. A fireworks manufacturer may build up its stock over the year ready for the October sales boom (and therefore show a high level of current assets because of the stock figure). However, if the manufacturer needed to pay off creditors in March, it might struggle to make enough sales at this time of year and may have to decrease prices as a way of raising money quickly. This is where the acid test ratio is useful.

The acid test ratio excludes stock from current assets as a way of measuring the ability of a business to meet short term demands for cash more reliably than the current ratio. The method of calculation of the acid test ratio is almost the same as the current ratio and the answer is in the same format. The only difference is that we remove stock from the equation.

- Acid test ratio = (Current assets – Stock/Current liabilities)

To calculate acid test ratio, three figures are needed: total current assets, stock and total current assets. This is similar to the current ratio, with a difference, stock is deducted from total current assets, before dividing it by total current liabilities.

For example, a business has current assets of stock £15 000, Debtors £10 000 and cash £17 000. It also has current liabilities of £28 000.

$$\frac{(£10\,000 + £17\,000)}{£28\,000} = 0.96:1$$

This means that the business has 0.96 times as many current assets (exclusive of stock) in proportion to its current liabilities (or put another way, it has £0.96 current assets excluding stock to every £1 of current liabilities).

The ideal for this ratio is generally given as 1:1.

If the acid test ratio is less than 1:1 then a business hasn't got enough current assets (minus stock) to cover its liabilities and it may be in difficulty. As with the current ratio, these figures are for guidance and are not to be used as a fixed rule. Some businesses comfortably survive on low acid test ratios, such as businesses with a high level of stock turnover who deal in cash and those with good financial management of the other current assets and current liabilities.

As with the current ratio, the acid test ratio can also be regarded as being too high. For example, an acid test ratio of 2:1 may indicate that the business is holding a great deal of cash that could be better used by the business in investing in growth. When analysing a business's liquidity, it is best to use the current ratio and acid test ratio together. As part of the analysis, it is also wise to refer to the generic benchmarks considered above and refer to industry-specific differences.

AC1.3 Explain how information about budgeting can be used by organisations

Budgets

A budget is a financial plan of action normally covering a specific time period, for example, six months or one year. A budget will describe expected levels of expenditure and revenues of a business. Large businesses will prepare budgets on a departmental basis or in relation to business functions. For example, a business will have an overall budget based upon the budgets of departments such as marketing, purchasing and human resources.

All budgets should be objective driven. This means that the expected revenues and expenditures of each department will be ultimately based on what the business is trying to achieve. Therefore, if a business has the objective of increasing sales by 20%, then the overall budget and departmental budgets should reflect this.

Purpose of budgeting

A budget serves a number of purposes:

- Planning – it requires a business to think ahead, in terms of what the business expenditure will be and what the sales revenue will be in terms of the market offering. Forecasting product sales revenue is always difficult, since it depends on customer needs-wants, which can be unpredictable.

- Communicating – budgeting can improve communication systems within a business. The budgeting process itself will involve communication either up and down the hierarchy or among project teams if a matrix structure is favoured. This will help to establish formal methods of communication, which can be used for purposes other than setting and administering budgets.

- Co-ordinating – budgeting ensures, or should ensure, that limited resources are used effectively. The budgeting process allocates resources to where they are most likely to help achieve the aim and objectives of a business. Resources include financial capital, machinery and equipment, land and premises and labour.

- Motivating – budgeting can motivate managers – although unrealistic budgets can demotivate in equal measure. When managers are involved in the budgeting process, they will have a commitment to ensuring that budgets are met, they will manage workers accordingly.

Benefits of budgeting

The budgeting process has important benefits for a business. These benefits include the following:

- Improved management control of the organisation. Managers know who is spending what, and why they are spending the money.

- Improved financial control. Part of the budgeting process is the monitoring of expenditure and revenues. Any changes from (variances from) budgeted amounts need to be explained and reacted to.

- Budgeting allows managers to be aware of their responsibilities. Managers who are in control of their budgets are aware of what they should be achieving and how their role fits in with organisational objectives.

- Budgeting ensures, or should ensure, that limited resources are used effectively. The budgeting process allocates resources to where they are most likely to help achieve the firm's objectives.

- Budgeting can motivate managers. When managers at all levels are involved in the budgeting process they will have a commitment to ensuring that budgets are met.

- Budgeting can improve communication systems within the organisation. The budgeting process itself will involve communication both up and down the hierarchy. This will help to establish formal methods of communication, which can be used for purposes other than setting and administering budgets.

Problems with budgets

The budgeting process can cause problems. These include the following:

- Those excluded from the budgeting process may not be committed to the budgets and may feel demotivated.

- If budgets are inflexible, then changes in the market or other conditions may not be met by appropriate changes in the budget. For example, if a competitor starts a major new advertising campaign, and the marketing budget does not allow for a response to this, sales are likely to be lost.

- Also, an effective budget can only be based on good quality information. Many managers overstate their budgetary needs to protect their departments. This can lead to lack of control and poor allocation of resources.

Budgetary control

A budget is a financial plan for the future and without such a plan business, and individuals, often get into trouble.

The managers of a business need to know when money is coming into the business and when it is going out. Failure to do this can result in cash flow difficulties and, in the worst case scenario, it can lead to insolvency i.e. the inability to pay its creditors. This is the major cause of business failure in Britain and particularly effects small and medium sized businesses, especially in times of recession.

The main causes of cash-flow problems for small businesses are late or failed payments from customers, weak sales and unexpected increases in costs. All of this underlines the importance of setting and monitoring budgets.

The basis of budgetary control is variance analysis. A variance is any unplanned change from the budgeted figure. Variances are favourable or adverse.

Budgets must be monitored for variances in order that they can be reacted to. Each budget has a budget holder who will be expected to take appropriate action. This is the person who is held responsible for the budget.

Calculation of variances is relatively simple. It adheres to the BAV principle. 'B' standing for budgeted, 'A' standing for actual and 'V' standing for variance.

In practice, the actual figure must be compared with the budgeted figure and the difference shown as either favourable or adverse variance. These variances should then be totalled, to gain an overall favourable or adverse figure.

Variances can be favourable (F) or adverse (A):

Favourable variance occurs when:

- expenditure is less than expected
- revenues are higher than expected

Adverse variance occurs when:

- expenditure is higher than expected
- revenues are lower than expected

A business will need to monitor variance in order to understand why they have occurred:

- Favourable sales variances might be caused by a number of factors including: an effective bonus scheme for salesmen; a successful advertising campaign; favourable weather; the demise of a competitor etc.

- Adverse sales variances might be caused by several factors including: the successful activities of competitors; ineffective advertising; logistical problems that meant that stock did not arrive with the customer on time; bad weather etc.

- Favourable cost variances may be caused by such factors as: improved labour productivity; reduced costs of imported components due to a strengthening of Sterling; finding a cheaper supplier etc.

- Adverse cost variances might have been caused by several factors including: a strike by dockers; bad weather in the growing region for crops such as sugar or coffee; a devaluation of Sterling; unexpected price rises from suppliers etc.

It should be clear that some of these factors are in the control of the business and they will want to learn the lessons of why the variances arose in order to maximise the causes of the favourable variances in the future and to minimise the causes of the adverse variances. Some factors will be beyond its control, but it may be possible to plan for such eventualities through such devices as buying in advance (stock or currencies) or holding buffer stocks of essential supplies.

Main types of budgeting

There are two main types of budgeting:

Historical budgeting. Here any budgeted figures in a budget are based on previous year's financial information. Meaning each new budget is based on the previous year's budget. The new figures are extrapolated from historic figures.

Zero-based budgeting. Here the budgeted figures must be considered afresh. Any cost must generate a sufficient benefit to the organisation. Meaning that each new budget is a totally new budget, it is starting from zero.

Zero budgeting involves managers starting with a clean sheet – they have to justify all expenditure made. This does the following:

- improves control
- helps with allocation of resources
- limits the tendency for budgets to increase annually with no real justification for the increase reduces unnecessary costs
- motivates managers to look at alternative options.

Both types of budgeting can be applied to sales, costs or profit. That is, it is possible to create sales budgets, various costs budgets and profits budgets.

Budgets support of finance and marketing

Budgets are used to support an organisation's finance and marketing functions. Expressly, budgets are used for:

- cost control
- trade credit allocation decisions
- raw material and component usage
- product pricing decisions
- sales value-volume consideration
- stock levels of stock-keeping-units
- discounting considerations

Budgeting and monitoring of budgets is an ongoing procedure in large businesses. Budgets should be continually evolving to adapt to changes.

Typically, the budgetary process will involve the following procedure:

1. Establish the aims and objectives of the business – what are the profit and market share targets? What is the targeted turnover?

2. Set production, marketing and financial budgets. These are the three main functional budgets and each is dependent upon the objectives of the business.

- Production budget – the objectives of the business have established the output levels required. The production budget attempts to put these output levels into practice. This will involve costs of purchasing raw materials and components, direct labour costs and other costs of production. This is an expenditure only budget.
- Marketing budget – both revenues and costs are combined. Revenues are from sales predicted and costs are from operating the business's marketing strategy.

- Financial budget – this will be based upon the business's cash flow forecast. Will income be able to cover expenditure, or will there be a need to examine methods of raising funds to finance other budgets?

3. Next the budget should be further broken down. Within each of these budgets, there is the opportunity to break budgets down further, so there may be a training budget, a health and safety budget, a direct selling budget etc.

4. Procedures for monitoring budgets should be established. For example, the monitoring may involve activities such as collecting feedback, checking targets and communicating regularly with budget holders.

5. Any variance from predicted budgets should be examined and reacted to.

6. The experience and knowledge gained from setting one period's budgets should be applied to the setting of the following period's budgets

AC1.4 Explain how information about actual or potential economies of scale can be used by organisations

Scaling up

As businesses grow and their output increases, they commonly benefit from a reduction in average costs of production. Total costs will increase as output increases. However, the cost of producing each unit falls as output increases. This fall in average costs as output increases indicates that a business is benefitting from economies of scale. This reduction in average costs is what gives larger businesses a competitive advantage over smaller businesses. Economies of scale are an important aspect of efficiency in production.

As the term suggest, economies of scale are the reduction in average costs of production that occur as a business increases its scale of production.

Economies of scale can be divided into two broad groups: internal and external.

Internal economies of scale

Internal economies of scale are reductions in average cost per unit of output as a result of increasing internal efficiencies of a business. Such economies of scale provide more of a competitive advantage. Some of the main ones include:

- Purchasing economies – businesses that grow, increase the size of orders for raw materials, components, works-in-progress or finished goods. This may then result in discounts being given and the cost of each individual component purchased will fall. Discounts are given because large orders are valued by suppliers, they leading to more profits. This will therefore reduce the average cost of production.

- Technical economies – as businesses grow, they are able to purchase the latest equipment and machinery and incorporate new methods of production. This increases efficiency and productivity, reducing average costs of output. Technology is more of a help than a hindrance to a business, more often than not.

- Financial economies – as businesses grow, they will have access to a wider range of finance. As the assets of a business grows, it is able to offer more security when seeking to borrow money – reducing the risk to the lender. As a result, larger businesses can often negotiate more favourable rates of interest on any money they do borrow and the cost of capital is lower.

- Workforce specialisation economies – as businesses grow, their labour force naturally increases. Meaning that workers become specialists not generalists. Towards that end, they can be assigned a specialist task. Through repetition of this task, they become more productive and business benefits from economies of scale. This is the division of labour principle at work.

- Managerial economies – as businesses grow, they are able to employ specialist managers. These managers will know how to get the best value for each pound-and-pence spent in the business, whether it is in production, marketing or purchasing. This will increase efficiency and thereby reduce the average costs of producing goods and selling the goods or services on offer.

- Marketing economies – as businesses grow, each pound spent on advertising will have greater benefit to the business. That is, the cost of advertising can be spread over more outlets and strengthened customers demand effective from advertising is multiplied by the number of outlets. Imagine a chain of local supermarkets: a TV advertisement is placed to cover the region. If there were 10 stores in the chain the cost of the advert must be borne by each of the 10 stores. However, if they have 20 stores, then the cost of the advert would be spread across each of the 20 stores and the benefit of the advert applies to each of the 20 stores.

- Increased dimensions economies – as businesses grow, they have more floor space to produce, wholesale or retail, leading to reduced storage costs per unit of output as scale rises.

External economies of scale

External economies of scale are the advantages of scale that benefit a whole industry and not just an individual business. The largest businesses often benefit from external economies of scale, especially if the industry is concentrated in one geographical area. Some of the main ones include:

- Cooperation economies – businesses competing in the same industry are more liable to cooperate if they are located in the same geographical region. For example, an industry journal may be established, to share information.

- Research and development economies – businesses in the same geographical region may pool their financial capital to finance a research and development a centre for the entire industry.

- Reputation economies – business output from the same geographical location may have a particularly good reputation with consumers. This applies in particular to food produce.

- Training economies – local further education colleges and universities will set up training schemes suited to the largest local employers' needs, giving an available pool of skilled labour. This reduces recruitment and training costs for those businesses which make up the industry concerned.

- Component support economies – an established industry attracts supplier businesses to provide support services.

- Agglomeration economies – this tends to be an urban phenomenon. Competing businesses located within a close proximity to another can lead to cost savings due to network effects. This is because urban clustering attracts increased customers and suppliers than a standalone business could attract.

These economies of scale can be regarded as quantitative in nature (ie, they can be measured using financial methods). It is known exactly how much is saved on purchasing raw materials and it known exactly how much is saved when a loan is renegotiated at a lower interest rate.

Economies of scale and other stakeholders

Economies of scale have led to significant price drops in some market segments which have been advantageous to consumers. Electronics, clothes and phone services are just three of the sectors that have seen real price falls over the last 20 years. Therefore, consumers do benefit from the fall in a business's costs if they are reflected in lower prices.

Shareholders may well benefit if economies of scale have helped businesses prosper as they have increased in size, resulting in increased share values.

Some businesses have increased their scale to such an extent that they have become monopoly suppliers and eliminated their competitors. These were no longer able to compete as their larger competitors took more and more advantage of the economies of scale available to them.

Suppliers are increasingly finding themselves under pressure to provide cheaper goods and services to businesses who operate on a large scale. This has proven to be the case with large supermarkets, resulting in many farmers going out of business as the profit margins that they were operating proved to be unsustainable.

Diseconomies of scale

If economies of scale are welcome by a business, diseconomies of scale are certainly unwelcome.

When diseconomies of scale occur, the average costs of production rise with output, resulting in higher costs per unit of output when the scale of a business continues to increase – the causes of inefficiency in large businesses.

Some of the common problems associated with diseconomies of scale include:

- Miscommunication – a larger-scaled business can give rise to miscommunication, because of the volume of communications that take place every single day. As a business grows and levels of hierarchy increase, the efficiency and effectiveness of communication breaks down. This leads to increasing misunderstanding and inefficiency as each level of hierarchy grows further and further apart and messages become distorted, resulting in increasing average costs.

- Control and coordination – it is difficult to control and coordinate the operation of a larger-scaled organisation. The larger a business becomes, the more difficult it is to coordinate. Inevitably there is a good deal of delegation and this empowerment of more and more managers to make their own decisions can result in different departments heading in different directions. To counter this, numerous management meetings have to be held. The time that managers spend in meetings, in an attempt to ensure better coordination within large businesses, can be viewed as a significant overhead cost.

- Demotivation – a worker is mere small cog in a large-scaled organisation's workforce. This can cause them to feel demotivated. With larger businesses it is harder to satisfy and motivate workers as many may feel that their views are ignored, as they are distanced from the organisation's decision makers. This means that they may not give their best as they are not focused on the organisation's aims and objectives.

- Overcrowding – similar businesses clustering together in the same geographical area leads to traffic congestion, resulting in late deliveries and staff arriving late for work. Local residents may resent this and public relations may suffer

- Increased price of resources – More businesses in an area means increased demand for labour to work in that industry and the best employees may be harder to recruit and keep. Land, services and materials may all become more expensive as the industry grows and demand for such resources increases.

AC1.5 Explain how information expressed as index numbers can be used by organisations

Index numbers are used to make numerical data easier to understand. Index numbers are used to measure changes and simplify comparisons. They can show changes over time in costs, prices, incomes and economic output data. Using index numbers allows data to be standardised over time so that the data is easily comparable by an organisation's decision makers.

The starting point for indexing numerical data is to establish a base year, which always has the value of 100. The base year is the base from which all other index figures are calculated.

The formulae for calculation index numbers is as follows:

Index number for any time period = (Value in period / Value in base period) *100

Example

The price of the product over a 4-year period:

Year	£
2017	1.05
2018	1.07
2019	1.10
2020	1.12

The business decided to express this information as index numbers, opting to set 2017 as the fixed base year.

2017
(1.05 / 1.05) * 100 = 100

2018
(1.07 / 1.05) * 100 = 102

2019
(1.10 / 1.05) * 100 = 105

2020
(1.12 / 1.05) * 100 = 107

The difference in the index number for a given year compared to the base year shows the percentage difference between the two years. Therefore, if you were asked to interpret the data, you know that the index numbers show the percentage change (increase or decrease) from the base year after deducting 100. So, the price of the product in 2020 was 7% higher than it was in 2017.

It is never a good idea to fix the base year for too long, as markets change.
Indexes have a number of uses, including:

- Makes measurement of complicated data easier to compare, present, understand and interpret
- Used to show economic data such as price rises and cost of living
- Identifies price changes
- Monitors rises in production costs in the form of inflation

- Used in wage and salary determination
- Can predict future trends in income, spending, demand for products, to help with business planning
- Can help businesses in financial planning and marketing decision-making

However, indexes have a number of limitations, including:

- Choice of base year is pivotal. Above all else, it must be representative of the whole index
- Fixing the base year for too long can pose problems to relevance of indexation
- Looks at data at a simple level and are only approximations of the relative change
- Comparison of index numbers of a long period of time are problematic and may not be reliable

The most common uses of index numbers for business includes:

- Price indexes - for example, the Consumer Price Index (CPI) which measures UK inflation/deflation (the average change in prices) over time
- Quantity indexes - for example, production and consumption of products
- Value indexes - for example, the value of commodities such as oil and foreign trade

AC2.1 Examine how SWOT analysis supports decision-making in organisations

A SWOT analysis is a tool used to help with organisational decision-making.

It identifies and analyses the internal strengths and weaknesses of a business – together with the external opportunities and threats created by markets – including competitors within the markets – and the wider external environment which shapes market conditions.

A SWOT is presented as a simple 2-x-2 table, displaying the strengths, weaknesses, opportunities and threats relevant to a business. This analysis considers the internal factors that the business can control, its strengths and weaknesses. Together with the external factors that are beyond its control, the opportunities and threats that it faces.

The objective of using a SWOT is the development of a strategic plan that considers many different internal and external factors and maximises the potential of the strengths and opportunities whilst minimising the impact of the weaknesses and threats.

The idea of a SWOT is to gain an overall picture of all potential influences on future business success and to adapt business strategy to reflect these influences. SWOTs are often prepared as part of the process of developing a strategic plan, or planning a solution to a problem. Often carrying out an analysis using the SWOT framework will be enough to reveal changes, which can be useful to the future success of the business. In general, a business will want to know in what areas it is better than its competitors and in what areas it lags behind.

There are four distinct stages to preparing and using a SWOT analysis:

Stage 1

Internal analysis

Examining the capabilities of the business, or part of the business. This can be done by analysing the business's strengths and weaknesses.

Stage 2

External analysis

Gathering data on markets, competitor activities, economic outlook and the environmental impact of the business. Identifying those points that pose opportunities for the business and those that pose threats or obstacles to performance. Then deciding whether the answers or the data collected, reveal external opportunities or threats.

Stage 3

Prepare SWOT table

Entering the information collected in steps one and two into a SWOT table.

Stage 4

Using the SWOT

To develop a business strategic plan or functional strategy.

The four components of SWOT are:

Strengths:

These are positive features of a business identified from Stage 1, the internal analysis. A strength is only a strength when a business is good at something and also takes advantage of this strength. Examples of strengths may be having a USP, a strong brand, state of the art equipment, motivated workforce, strong financial indicators, etc. When examining strengths, a business will ask the questions ‘What are our advantages over our competition?’ and ‘What do we do well compared to other businesses in the industry?’

Weaknesses:

These are negative features of a business identified from Stage 1, the internal analysis. A weakness occurs when a business performs poorly in an important area of operations or when it fails to take advantage of an existing strength i.e., an unsuccessful application of an asset or the failure to exploit a critical factor that diminishes company competitiveness. Weaknesses could also include the opposite of the strengths listed above such as a demotivated workforce, poor customer loyalty and a poor financial position. When examining weaknesses, a business will ask the questions ‘What could be improved?’, ‘What is done badly?’ and ‘What should be avoided?’

Opportunities:

These are prospects identified in the external analysis carried out in Stage 2. An opportunity is an external condition that could positively impact on the business’s performance and improve competitive advantage, provided positive action is taken in time. When examining opportunities, a business will ask the questions ‘What are the interesting market trends?’, ‘Is our competition suffering?’, ‘Are new market niches appearing?’, ‘Are there opportunities for take-overs?’, ‘Has legislation recently changed?’ and ‘Is the economic climate improving?’

Threats:

These are dangers identified in the external analysis carried out in Stage 2. A threat is an external condition that could have a negative impact on the business’s performance and reduces competitive advantage. When examining threats, a business will ask the questions ‘What obstacles does the business face?’, ‘What is the competition doing?’, ‘Is there a new business entering the market?’, ‘Is changing technology threatening the business’s position?’ and ‘Is the economic climate getting worse?’

Stage 3 would be summarising this information in a table, such as the one shown below. This then can be used to initiate a discussion when developing a corporate or functional strategy (Stage 4).

Internal	External
Strengths • Balanced product portfolio, in terms of the BCG matrix and product lifecycles • Trained workforce • Healthy profit margins, both GPM% and NPM% • High levels of productivity • Effective distribution methods	**O**pportunities • Research and development investment • Automation of production facilities • Diversify by launching a new product in a new market • Changes in government policy related to the business's market • Changes in social patterns, population profiles and lifestyle changes
Weaknesses • Organisational culture, which is highly resistant to change • Weak cash-flow at times, leading to a negative net cash-flow • Basic website preventing effective digital marketing. Not least poor SEO • Poor investment record in technology • High levels of staff turnover	**T**hreats • Competitor's increasing market share • Economic recession • Changing consumer incomes or tastes • New product launches by competitors • Environmental legislation

SWOT relationship with PESTEL
The opportunities and threats faced derive from the external environment. In turn, the external environment derives from various external forces. Political ones, economic ones, social ones, technology ones, environmental ones and legal ones. Hence the PESTEL (or PESTLE) acronym. Essentially, PESTEL external forces creates the opportunities and threats for a business.

An example of a generic PESTEL analysis:

Political • Change in government, following a general election, new government programme based on the winning political party's election manifesto • Openness to trade in the form of degree of protectionism implemented by government of the day • Increase in taxes • Post-Brexit relation with European Union
Economy • Stage in business cycle, from expansionary boom to contracting bust • Inflation levels including base interest rate, effecting in consumer purchasing power change • Employment and unemployment rate

Social • Population size • Work-life balance trends • Cultural changes, such as use of technology in buying, recycling expectations, growth in vegan foods
Technology • Artificial intelligence and intelligent assistants • Growth in popularity of electric and hybrid motor vehicles • Digital media • Automation
Environmental • Using alternative sources of energy • Reducing carbon emissions by sourcing locally • Reduce, reuse and recycle movement
Legal • Health and safety • Employment rights • Equality legislation

Contribution towards financial and marketing policies

Once the SWOT has been completed, the information can be used to help develop a strategy that uses the strengths and opportunities to reduce the weaknesses and threats and to achieve the objectives of the business.

An effective SWOT will allow a business to:

- Build on strengths
- Resolve weaknesses
- Exploit opportunities
- Avoid threats

Financial policies and marketing policies can be determined after carrying out a SWOT analysis.

For instance, a business may alter its financial and marketing policies in the following as a consequence of having undertaken a SWOT analysis:

Financial policies

- Reduce costs to increase profit margins
- Attempt to reduce the breakeven output of certain products.
- Change its trade credit policies
- Source additional financial capital

Marketing policies

- Change its pricing strategy and selling prices
- Widen or restrict its distribution
- Increase or decrease its promotional budget
- Change its promotional message
- Enter new markets

AC2.2 Examine how the product lifecycle supports decision-making in organisations

The product life cycle represents the different stages in the life of a product and the sales that are achieved at each stage. For some products the life cycle can be short – for example, one-hit wonder bands or this summer's fashion. Others appeal for a longer period and then go out of fashion or are replaced by newer, more up-to-date or technologically advanced products. However, there are some products that are unique: for these the life cycle goes on and on. Coca Cola, the VW Golf and Mars bars are examples of products with impressively long and ongoing life cycles. Whatever the product, it will have a life cycle of some sort.

There are six stages to a product lifecycle, though some models refer to just 5 stages and leave out research and development:

- Research and development
- Introduction
- Growth
- Maturity
- Saturation
- Decline

Research and development

Before a product is launched onto the market, it must first be researched and developed. This involves brainstorming, laboratory research, product design including prototyping, consumer panels and test marketing. There are no sales during the research and development product lifecycle stage, only mounting costs for the business in the form of an investment which may or may not eventually pay-off.

Introduction

Introduction involves launching the product onto the market, usually with much fanfare. As the product is new to the market, few potential consumers are aware of its existence. Price can be high and sales may be restricted to innovators and early adopters. Though some businesses opt for a penetration pricing, to get a firm foothold in the market. Profits are often low as research and development costs have to be repaid and advertising expenditure can often be high, especially if mass media is used.

Growth

During the growth stage, the product is becoming more widely known and consumed, it's transferring from early adopters to the early majority – so the sales are constantly increasing with the passing of time. Advertising tries to establish or strengthen the brand and develop an image for the product. Profits may start to be earned, but they are moderated by advertising expenditure still being high. Prices may fall.

Maturity

The product range may be extended during the maturity stages. Competition will increase and this has to be responded to, else market share will be lost rapidly. Advertising should be used to firm-up the image of the product in the consumers' minds. Sales are at their peak, profits should be high.

Saturation

Very few new customers are gained, replacement purchases are the norm. With it, consumption weakens. Businesses should try to reduce their costs, so that prices can be more flexible. The battle to survive is beginning and the market for the product is 'full'. Profits may start to decline.

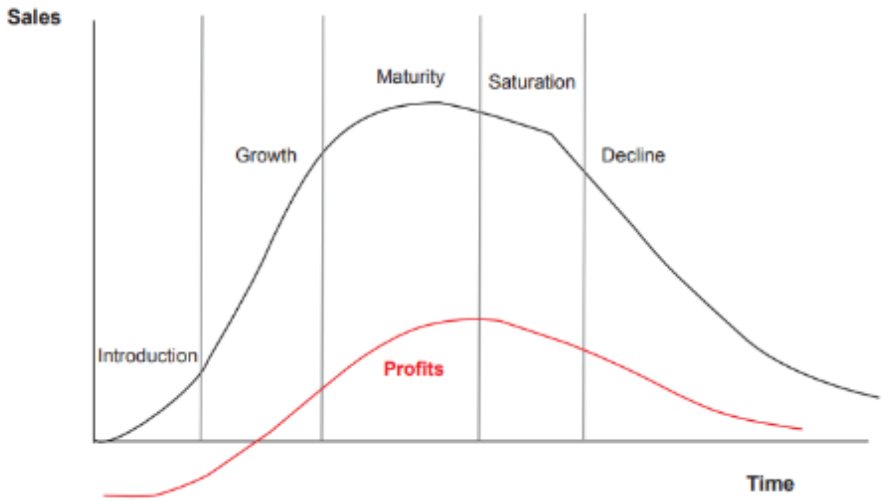
Decline

Sales now fall fast and the product range may be reduced, with the business concentrating on other core products. Advertising costs will be reduced, with attempts made to mop-up what is left of the potential market. Overall profits will fall. Price is likely to fall, even so by concentrating on remaining market niches there may be some price stability.

Businesses will try to make the product stay in the maturity stage as long as possible as this will maximise profits and help the business gain the greatest return on the money invested in the product.

Example life cycles

Below we see a typical, or classic, 5 stage product life cycle:



In this example we see the five stages, starting with introduction, through growth, maturity, saturation and finally decline. The product life cycle measures the change in sales of the product that occurs over time. We can see that sales increase through introduction, growth and into maturity until we reach the saturation stage of the product life cycle. Sales now start to fall and the product moves into decline. Profits can be plotted against a life cycle.

The red line below shows the likely change in profitability of the product over its life. Initially losses are made as research and development costs have to be recouped and advertising costs are likely to be high. As the life cycle moves through growth into maturity, profits are made. Profits are likely to continue to be made through to the end of the cycle, though at a lower level.

This is a typical structure of a product life cycle but there are many products that do not fit into this classic model.

In the ‘Straw on Fire’ life cycle, the product quickly moves through all the stages. Introduction is short and market saturation may be reached in a matter of months. During this time sales can become incredibly high and products with ‘Straw on Fire’ life cycles can dominate the market for a short period. Some of the best examples of this type of life cycle can be found in the children’s toy market: there have been many over the years including Furbies, Cabbage Patch dolls, hula hoops, yo-yos, loom bands etc.

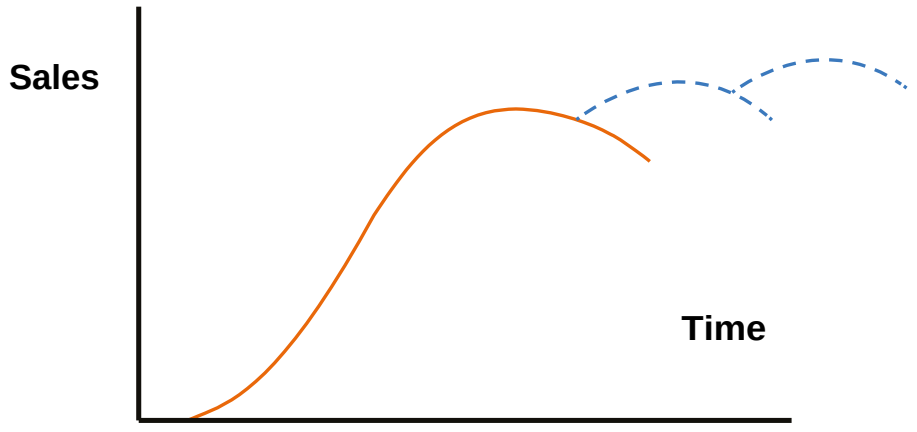
The ‘Extended’ product life cycle demonstrates that some products remain in the marketplace for a long time – often much longer than competitor products. These products stay in maturity and seem to avoid decline. Consider the shape of the life cycle of Coca Cola or Rice Krispies. Are these products in decline, or are sales being maintained?

Extension strategies

These are used to extend the life cycle of the product. They may be necessary because a new product has not been developed to replace an ageing product. They may also be used as a product has a declining market share in a large or growing market. Extension strategies could include:

- bringing out new versions with additional or new features
- changing the packaging
- lowering the price
- carrying out more advertising
- repositioning the product in the marketplace
- relaunching the product, aiming at a different segment, e.g. promoting the healthy aspects of consuming the product
- using the ‘now with’ policy – this tactic is often used with limited edition cars

Extension strategies are used to stop sales from falling and to prolong the life cycle as long as possible. An extension strategy will mean changing the marketing mix for a product and will have the following effect on a product life cycle:



In the example above, the first extension strategy was introduced at the end of the maturity stage, resulting in a boost of sales for some time. When these sales started to drop off, a second extension strategy was introduced. This again resulted in a short boost of sales.

The product life cycle is a useful business management tool that can help with decision-making. Sales data and product performance over time can be used to plot the life cycle. This helps with forecasting sales as a business can use historical life cycles for similar products in the past and use that data to help forecast the product life cycle of new products.

Businesses may find it difficult to remove a product from the market, this can be due to loyalty to the product or even have emotional attachments. Using the product life cycle, decision makers can make objective decisions based on sales, projection and the investment that would be needed to extend the life of the product or replace it with new products.

How the product life cycle supports financial decision-making

The main finance focus of the product lifecycle include:

- Cost allocation - there are different costs associated with the various stages of the product lifecycle. Costs will be highest in the research and development, introduction, growth and maturity stages of the product lifecycle, largely because of the need to heavily advertise the product; less so in the saturation and decline stage of the product lifecycle. Direct costs and indirect costs need to be considered, too. Direct costs are those that be directly allocated to a product, such as raw materials and labour that is inputted into the product. Indirect costs are an organisation's overheads, these need to be apportioned to a product. Rent, administration and insurance are examples of such indirect costs.

- Profitability at each stage – profits will be highest in the growth and maturity stage of the product lifecycle. Profits can still be made during the decline stage, but the decision when to withdraw the product from the market is a key one – as no business can afford to sustain an unprofitable product for any great length of time.

- Drop unprofitable products to save costs – businesses must profit from their products, so unprofitable products must be dropped to save costs. It may be the case that a product is not unprofitable, but it is not as profitable as it once was and there are other products that have been researched and developed that could be launched onto the market.

- Keep a full product portfolio – a business with one product exposes itself to a high degree of risk. Since when that product declines, it will have no market offering. That is why businesses prefer to keep a full product portfolio if they can.

How the product life cycle supports marketing decision-making

- Marketing for each stage – the marketing activities for each stage of the product lifecycle are not likely to be the same. A business will need to alter its marketing mix slightly at each stage – to reflect the different sales that are achieved. A business will promote heavily during the introduction, growth and maturity stages of a product lifecycle. It will still promote during the saturation stage, but the message and media will be different and eventually degree of promotion will be scaled back. Price is liable to be altered for each stage. For instance, a business during the saturation and decline stage of the product lifecycle may need to reduce its price – to maintain sales. Where the product is distributed from is liable to evolve during the stages of the product lifecycle.

- Add value – a product is the end accumulation of an organisation's added value. If a product's sales and profits are declining it may be the case that the business must alter the amount of added value. By either increasing the sales price or decreasing the input costs. Building the brand value is another such way of adding value – something that requires initially considerable promotion.

- Extension strategies – a business will need to employ an extension strategy during saturation or early decline stage of the product lifecycle. These are used to extend the lifecycle of the product. They may be necessary because a new product has not been developed to replace an ageing product. They may also be used if a product has a declining market share in a large or growing market. Tried-and-tested extension strategies include launching in new markets, repositioning, relaunching or rebranding the product.

Limitations of using the product life cycle

Despite its uses, the product lifecycle is not without its limitations:

- It is based on historical sales data and is not effective at forecasting sales

- Every product has a unique lifecycle, so there is no one-size-fits all approach

- Fluctuations in sales data can make the life cycle unreliable and reduces the precision of the movement of the sales

- It simplifies complex market realities. For instance, a business may have short-term sale peaks and troughs in the growth stages, even if the long-term trend is of sales growth.

- Does not work for brands, just individual products

- It has widespread appeal, so competitors are likely to use the product lifecycle too.

- Is less effective in an unstable external environment

- There can be a delay in a business receiving the actual sales data, by the time it is received the product may be entering a new stage

AC2.3 Examine how breakeven analysis supports decision-making in organisations

Breakeven is when a business incurs neither loss nor profit. Instead, the total revenue of a business is equal to its total costs.

Breakeven analysis requires understanding of revenue and costs.

Revenue

Revenue is the money a business makes from sales. In other words, it is the value of the sales and is also referred to as turnover. The total amount of money a business receives from its sales is called total revenue.

Total revenue = quantity sold x selling price

For example, if a hairdresser has 15 customers in one day for a haircut and charges £20 per person, the revenue will be 15 x £20 = £300 for the day.

As most businesses sell a range of products or services, they are likely to use an average selling price, in order to work out their revenue.

For example, the hairdresser's customers are likely to have different services and not all will pay the same price – some might have just a cut, while others might have their hair coloured and cut, also, some might be children, who will pay a lower price for the service. The £20 used above, is therefore an average selling price, which will be a combination of all the prices charged by the hairdresser.

By calculating the total revenue, a business can then work out if they have made a profit or a loss.

Profit = total revenue – total costs

Of course, all businesses want to make a profit. However, if total costs are greater than total revenue then the business will make a loss.

Costs

This is the money that businesses spend to operate the business. A business will have many costs to pay in order to run the business. These include rent, loan repayments, wages, buying equipment, buying stock and materials, power (electricity), advertising, paper and so on.

There are two main types of costs:

- Fixed costs – costs that are fixed in the short-term, thereby they do not vary in direct proportion to output.

  In every business some costs will remain the same whatever the level of output produced, or products sold. For a shop, even if no customers visit, the rent or mortgage will have to be paid. There will still be business rates to pay, and the electricity for lighting, fridges etc. will still have to be paid. A software business will find that the value of its hardware depreciates (falls in value) even if it is not being used. An ice cream salesman in his van will have to pay insurance and road tax even if no ice creams are sold.

These are all fixed costs. Fixed costs are costs that do not vary with output. No matter how much is made or how little is sold, fixed costs still have to be paid.

- Variable costs – costs that vary in direct proportion to output.

  Variable costs behave quite differently from fixed costs. Variable costs vary in direct proportion to output – as output increases variable costs increase, as output falls variable costs fall. Using the example of a tailor's shop, variable costs would include cloth, cotton, buttons etc. None of these raw materials of the suits or dresses made would be used if no goods were produced. So, when output or sales are nil, then variable costs are nil. However, as soon as output starts, then these raw materials start being used. As more and more suits and dresses are made, so more and more cloth, buttons and cotton are used. We can therefore say that at output zero, variable costs are zero; but as output increases variable costs also rise.

  We assume that there is a constant relationship between output and variable costs, but in most cases this constant relationship does not hold true. Businesses who produce more often benefit from purchasing economies of scale, so as output increases variable costs per unit produced start to fall.

Not all costs can be defined as fixed or variable. Some costs, such as labour, could be fixed (a permanent member of staff working a 38-hour week) or variable (the member of staff being asked to work 5 hours overtime due to increased demand). These types of costs are called semi-variable. Semi-variable costs is a cost that combines fixed and variable characteristics.

Stepped costs is a cost that does not steadily rise with unit output volume, instead it rises at a discrete point and does not change in direct proportion of output. It has elements of fixed costs as costs can be constant (fixed) at a certain level but rises when an output threshold or time threshold is reached.

Generally, costs rise over time, employees may be given a wage increase and materials used in production will increase. This is because of inflation. Inflation being a general rise in prices across an economy. So, in reality all costs will fluctuate over time, even fixed ones as there are other external factors that influence costs.

For the purpose of breakeven analysis we will concentrate on fixed and variable costs.

Adding the fixed costs and variable costs will give a business's total costs.

Total cost = fixed cost + variable cost

Total costs are calculated by adding together fixed costs and variable costs. At every level of output (apart from nil), a business's costs will be a combination of fixed and variable costs – the two added together make total costs. At zero output the business only has fixed costs, there are no variable costs. So, at zero output, fixed costs = total costs. However, once the business starts production or starts making sales then total costs will be made up of fixed and variable costs. Average total costs are the average cost of producing each unit of output. Because total costs consist of fixed and variable costs, as output increases then **average total costs** start to fall. This fall in average total costs will continue until a point is reached where diseconomies of scale force variable costs to rise sufficiently to push up the average total costs of production.

It is important for managers to be able to judge profitability. Decisions need to be made on continuing or discontinuing production – whether to make an investment in developing a product, whether to start training programmes or input more human resources. Without information on profitability, or lack of profitability, effective decisions cannot be made. To enable these decisions to be made, businesses must have a method of allocating costs to each product, department, branch or factory. One method of implementing this cost allocation is to divide a business's costs into direct costs and overheads.

Direct costs are costs that arise specifically from the production of a product or the provision of a service. Examples of direct costs include:

- rent on a shop
- materials or components
- direct labour
- expenses such as copyright payments on a published book, or licence fees for use of patents.

These direct costs can be totalled to give the direct costs of producing the product. However, revenue minus direct costs does not indicate profitability. The business must also apportion **overheads** or **indirect costs** to the product.

The production of any product results in a business paying costs not directly related to production or service provision. For example, a factory producing 10 different goods, to each of which, managers allocate direct costs, will employ a secretary or receptionist. The overhead cost of employing the secretary or receptionist needs to be apportioned or allocated to the products to gain a picture of true profitability. For retailers, advertising is an overhead; the cost of advertising should be shared out amongst retail outlets to better judge profitability. So, the true profitability of a product, factory, outlet etc. can only be judged if we take from revenue, both direct costs and overheads. Overheads are therefore costs not directly related to production.

To make a profit, a business has to have revenue that is greater than its total costs. If the revenue is lower than the total costs, then the business will make a loss. The formula for calculating profit (or loss) is:

Profit = revenue – total costs (fixed cost + variable cost)

For example, if a business has sales revenue of £50 000 and its fixed costs are £20 000 and its variable costs are £25 000, then its profit will be £5 000.

Breakeven is the point at which a business makes neither a profit nor a loss.

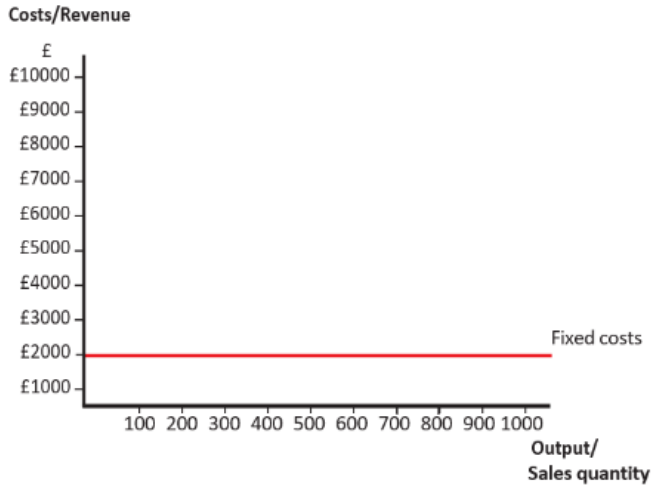
Breakeven is where total revenue = total cost

If a business produces or sells one less good, the business makes a loss, if it produces or sells one more, it makes a profit. Break-even point is therefore a very important measure for a business, as it shows how much it needs to produce or sell in order to make a profit. Breakeven charts are used to illustrate the breakeven point for a business. In order to draw a breakeven chart, the following information is required:

- total revenue
- variable costs
- fixed costs
- total costs

To start, the **fixed cost** line is drawn.

On the graph the vertical axis shows the level of costs and revenue, while the horizontal axis shows the level of output and sales. In the example below, a business has fixed costs of £2 000. As fixed costs remain unchanged at all levels of output, the fixed costs line will always be horizontal.



The **variable cost** line is drawn next.

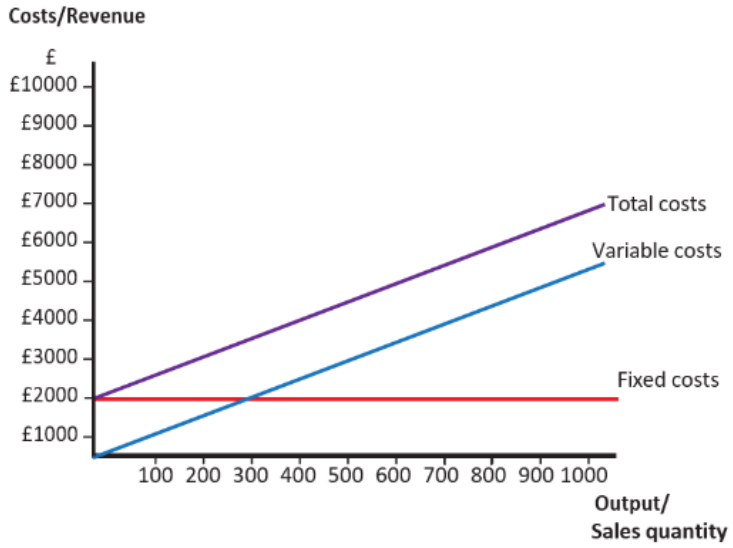
When calculating variable costs, we must work out the variable cost per unit made or sold. Using the same business which has fixed costs of £2 000, they also have a variable cost of £5 per product.

So, when producing zero products the variable cost is zero, when producing 500 its £2 500 (500 X £5) and at 1 000 it will be £5 000. Using these three output points the variable line can be added to the breakeven graph.

The **total cost** line is drawn next. We do this by adding the fixed costs and variable costs

The total costs line can be added as at every level of output (apart from zero), the business's costs will be a combination of fixed and variable costs – the two added together make total costs. At output zero the business only has fixed costs, there are no variable costs. when drawing the total cost line it will always start where the fixed costs line meets the vertical (costs) axis. To mark the second point, choose a level of output and add together fixed and variable costs at that level. In this case, at an output of 500 boxes of fruit and veg, the fixed costs are £2 000 and the variable costs are £2 500 (£5 x 500). So, the total costs at an output of 500 = £2 000 + £2 500 = £4 500.

At the third point, at an output of 1 000, the fixed costs are £2 000 and the variable costs are (£5 x 1 000). So, the total costs at an output of 1 000 = £2 000 + £5 000 = £7 000. The total cost line can now be drawn by joining the three points.

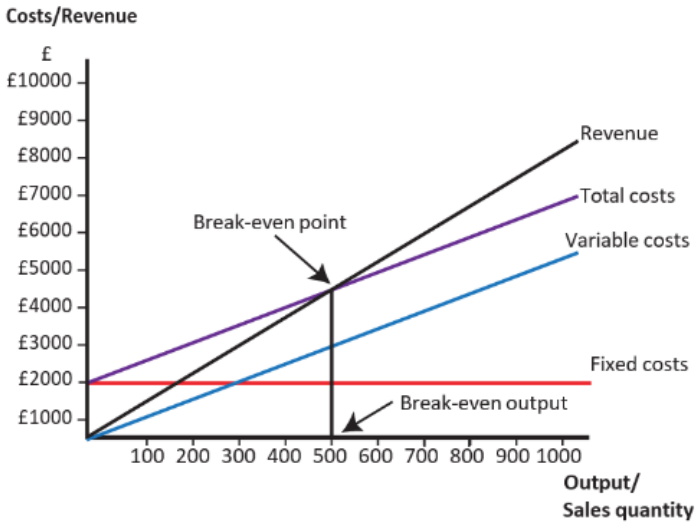


Finally, we draw the **total revenue** line.

The last line to add is the revenue line. This line shows the revenue at any level of sales. Revenue is the number of sales multiplied by the selling price per unit. In this case the average sales price
is £9.

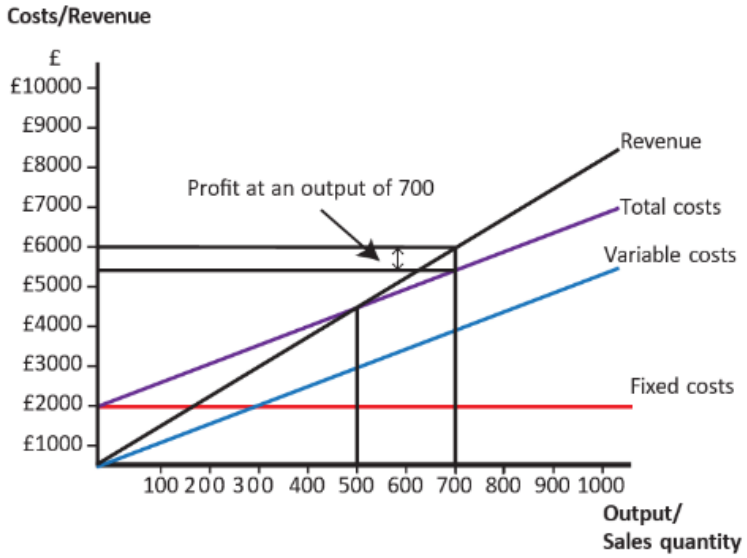
To draw the revenue line again use three points. The first is straightforward. At sales zero, revenue is zero, so we can mark the start of our revenue line. To mark the second point, use a similar method to drawing the variable cost. Sales of 500 units x £9 = £4 500. To mark the third point at 1 000 sales calculate 1 000 x £9 = £9 000.

Connect the points to draw the revenue line.



The point where the revenue line cuts the total costs line is break-even point. A vertical line is drawn straight down from the break-even point to give the break-even output. A horizontal line drawn from breakeven point to the costs/revenue axis will give you break-even costs/revenue.

Using the breakeven chart, the breakeven point and profit and loss can be calculated at various levels of output. For example:



To find profit or loss at different outputs the difference between the revenue line and the total costs line at the given level of output can be measured. For example, to calculate profit at an output of 700 units, firstly draw a vertical line up from the 700 output point. Then draw this so that it meets both the total costs and revenue lines (this has been done on the chart). Output 700 is the right of breakeven point, so the business is making a profit. This can be seen clearly because the revenue line is above the total costs line. To find out exactly how much profit is being made at this level of output (or any other output level), measure the gap between the total revenue and total costs lines. In this case, profit is £700.

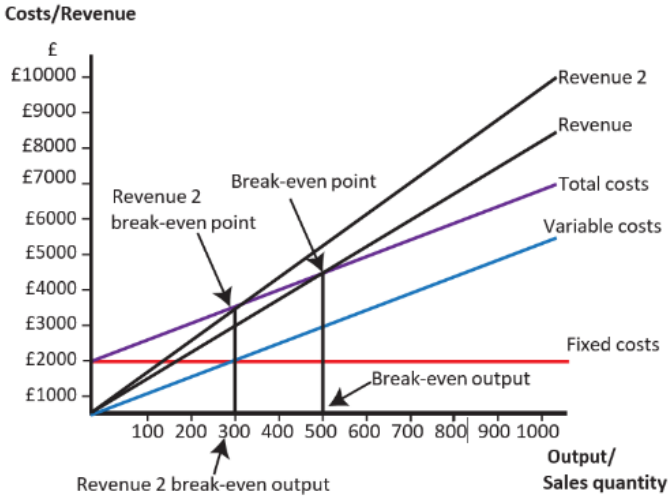
The margin of safety

A business's margin of safety is the difference between output level and breakeven output, when output is above breakeven. So, if output is 900 units and breakeven is 500 units, then the margin of safety is 400 units. The margin of safety indicates the amount by which demand can fall before a business incurs losses. The margin of safety can be identified on the breakeven chart by measuring the difference between the breakeven point and the actual level of output. Businesses will want to ensure that they have a healthy margin of safety just in case an unexpected drop in sales affects their business. A small margin of safety could put the business at risk if they experience a drop in sales.

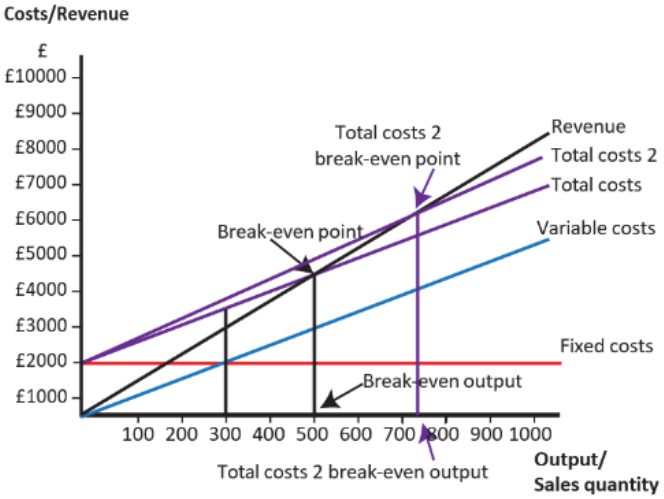
Changes in costs and revenues

In business, costs and revenues are not fixed, and a breakeven chart can be used to show the effect of an increase or drop in revenue and/or costs on the profitability of a business.

An increase in the price of the boxes from £9 to £11 will change the total revenue line (Revenue 2), it becomes steeper and will cut the total cost line sooner, resulting in breakeven at a lower level of output. If the price was reduced, then the opposite would happen and the breakeven point would be at a higher level of output.



An increase in the variable cost will change the total cost line (Total costs 2). It becomes slightly steeper and will cut the revenue line at a higher output level, resulting in breakeven at a higher level of output. If the costs were reduced, then the opposite would happen. If variable costs remained the same but fixed costs changed then this would result in a parallel shift in the total cost line.



Calculating break-even by contribution

Every product made has a variable cost and a selling price (which must obviously be higher). The difference between the selling price per unit and the variable cost per unit is known as the **contribution** towards covering the business's fixed costs. In other words, contribution is the revenue a business receives from the sales of the product, minus the variable cost of the product.

This is because any positive figure between selling price per unit and variable cost per unit 'contributes' to paying off the fixed costs. Once all the fixed costs have been covered by the contribution, a business has reached breakeven. This is because all costs (fixed and variable) have been covered.

For example, the selling price for a product is £9 and the variable cost is £5 – the contribution is therefore £4 per unit sold.

Contribution can be calculated for:

- Total contribution = Total revenue – Total variable costs
- Contribution per unit = Selling price per unit - Variable cost per unit

As a general rule, the higher the contribution the better for a business. As each unit of output contributes to covering its fixed costs and contributing to profit.

It is possible to calculate the breakeven output using the contribution method:

Breakeven output = Fixed cost/Contribution per unit

For example:

If fixed costs are £2 000 per month and the contribution is £4 per product. Divide fixed costs per month by contribution to find out how many products must be sold to breakeven:

£2 000/£4 = 500 boxes

- If the business sells more than 500 boxes it will make a profit
- If the business sells less than 500 boxes it will make a loss
- At breakeven point the total contribution (contribution per item X number sold) equals the total fixed costs

A more detailed example:

A factory has fixed costs of £40 000. The current selling price of its product is £1.12. £0.25 of raw materials, £0.10 of labour and £0.15 of overheads goes into manufacturing each product (all variable costs).

Contribution per unit	=	Selling price per unit	-	Variable cost per unit
£0.62	=	£1.12	-	£0.50

This means that for £0.62 of the £1.12 selling price contributes to covering fixed costs and profits.

Breakeven output	=	Fixed cost	/	Contribution per unit
64 517 units	=	£40 000	/	£0.62

Meaning that the factory must manufacture and sell 64 517 products or units to breakeven from its manufacturing.

Margin of safety

Margin of safety can also be calculated. The formula is as follows:

Margin of safety = Current output – Breakeven output

As stated in the breakeven chart, the greater the margin of safety the better, since it means the business is profitable. If a business has no margin of safety, it means it is either at its breakeven output or making a loss.

Example:

As previously noted, the factory's breakeven output is 64 715 units. Its current output is 80 000 units.

Margin of safety	= Current output	-	Breakeven output
15 285 unit	= 80 000 units	-	64 715 units

Breakeven analysis also helps a business to calculate the profit or loss it will make at different levels of output. Having calculated the breakeven output a business can then use contribution to see the profit and loss at different levels of output.
For example, a business has carried out some market research that indicates that it can increase sales from 600 units to 650 units. Its breakeven point is 500 units. Simply, take the difference between predicted sales and the breakeven point and multiply this by the contribution, which is £4. This will give us the projected profit figure.
150 x £4 contribution = £600.

The profits per month if the business could sell 650 units, will be £600.

How useful is breakeven analysis?

- Breakeven does provide a simple and easily understood representation of costs, revenue and potential profit.
- Breakeven is also useful as part of a business plan and can help when seeking a loan.
- It also allows use of 'what-if' analysis. Using 'what-if' analysis, business owners can judge the impact on profitability of a number of costs and revenue variables. For example, the effect of an increase in fixed costs by 10% could be quickly judged, and the same applies to potential changes in variable costs and revenues. Using this method, the impact of the changes on breakeven output, margin of safety and profitability can be measured.
- However, the use of 'what-if' does not fully overcome the weaknesses of break-even. The first problem is that the method assumes only one product is produced and sold, but this simple situation is rarely repeated in the real world of business. This initial problem can be overcome if the business (e.g. a sandwich shop) sells a similar range of products: then an average cost and revenue per customer can be estimated.
- The method also assumes that all goods produced are sold and sold at the same price. Most businesses have wastage through damaged stock, poor quality stock etc., and it is likely that at least some products (end of line) will be discounted.
- The linear relationship of costs/revenue to output/sales can also be questioned. In each case economies of scale are likely to come into play, breaking down the relationship.

- Some fixed costs are stepped. This occurs when a business acquires more capacity, and costs, such as rent, may increase. This sharp rise in fixed costs makes it difficult to apply breakeven analysis.

- GIGO principle – that is, ‘garbage in, garbage out’. In essence, the breakeven analysis is only as good as the costs and revenue data inputted into the analysis.

- Unchanging conditions – breakeven analysis is predicated on unchanging conditions. In reality, market conditions change, as per supply-demand market forces interactions.

- Presumes that all output sold and stockholding levels are zero – again, few businesses sell all output and stock levels are seldom zero.

Finance route

AC3.1 Assess the relevance of financial statements and ratio analysis to organisational decision-making

Profit

Profit is the main measure of business success and is often the main motive for entrepreneurs starting a business and for investors investing in the business. Although there are other business objectives, profit is often seen as the key objective and the long-term goal of any business activity. Profit, therefore, is the reward for the hard work by entrepreneurs and also the reward for investors, for risking their money by investing in the business.

A business in the private sector of the economy will be concerned with profiting from its trading operations. The private sector of the economy contains for-profit businesses that exist to make a profit for their various owners, be they unincorporated own-account traders or partners, or shareholders where a corporation has been incorporated.

A business organisation's owners will be individuals which have willingly invested their financial capital in the business in the hope that it creates profit and they will receive a return on the financial capital employed. There is always a risk that any business may not produce a profit from its trading operations and instead make a loss. It is the owners that have provided the financial capital that bears this risk.

The output, total revenue and total costs are key in calculating whether a business has made a profit or loss from its trading operations. Output is the volume of units of a product or service a business has provided the market over a time period, by adding value to whatever inputs are necessary to make the output. Total revenue is the money amount a business receives from a given level of output. Total costs is the money amount it costs a business to produce a given level of output to operate.

Profit is made if a business's total revenue is greater than its total cost at a given level of output. In formula terms:

Profit = Total revenue > Total costs

A loss is made if a businesses' total revenue is less that its total costs at a given level of output. In formula terms:

Loss = Total revenue < Total costs

A business will breakeven if its total revenue is equal to its total costs at a given level of output.

Breakeven = (Total revenue) = Total costs

In summary, any output level before or at the breakeven point equates to a loss for a business and any output level after the breakeven point equates to profit for an organisation.

Admittedly, the profit motive plays a central role in for-profit businesses contained in the private sector of the economy. It drives every decision and action of such businesses. Maximising profits is a must for for-profit businesses.

Financial statements

Financial statements are a summary of an organisation's transactions over a given period of time or at a given period of time. A business will produce financial statements, detailing financial information about itself over a trading period or at a given period of time. Expressly, the three different types of financial statements include:

- Income statement (profit and loss account)
- Balance sheet
- Cash flow

Income statement (profit and loss account)

The income statement (profit and loss account) displays an organisation's revenue and expenditure, usually over twelve-months. It displays whether a business has made a profit or loss in this time.

Profit and loss accounts are said to give a 'historic view' of the business's trading income and expenditure over the previous 12 months. The account will show all income and expenditure received and incurred over the previous year.

A profit and loss account is used:

- to show how well the business is doing to satisfy its owners (including shareholders)
- to calculate its tax liabilities
- in a business plan, when applying for finance

The main components of a profit and loss account are:

- **Sales turnover** (revenue) – the money or income a business receives from selling its products or services.
- **Cost of sales** – the costs involved in directly producing or selling products and services. These include the direct materials, components or stock used in producing or selling, direct employee costs in producing or selling, and energy costs used in the direct production or selling of products and services.
- **Gross profit** – this is sales turnover minus the cost of sales.
- **Expenses** (overheads) – the costs that are not directly linked to the production or the selling of products and services. These include rent, insurance, management salaries, maintenance, marketing, general energy costs and interest on loans.
- **Net profit** – this is the gross profit minus the expenses, and gives the final profit for the business. The net profit is the most important profit for a business and is the profit that is used to measure the overall profit (or loss) for the business.

These components are used to construct a profit and loss account. The example below shows the basic way in which a profit and loss account is set out:

Example of an income statement for ABC Ltd for 2021	
Sales revenue	£70 000
Cost of sales	£40 000
Gross profit	£30 000
Expenses	£20 000
Net profit	£10 000

Two calculations are carried out:

Sales revenue – cost of sales = Gross profit £70 000 – £40 000 = £30 000
Gross profit – expenses = Net profit £30 000 – £20 000 = £10 000

So, the final overall profit made by the business in 2021 was £10 000.

The net profit will be shared by a number of stakeholders:
- Some will be taken as tax by the government
- Some will be distributed to the owners
- Some will be ploughed back into the business
- Some will be kept in reserve for future use.

Profit and loss accounts are usually more thorough than the example given above, which just shows the general layout and the order in which the main components are presented and calculated.

Example 1

Below is an income statement (profit and loss account) for Widget Manufacturing plc. A large-scale widget manufacturer with a number of plants.

Widget Manufacturing plc
Income statement (profit and loss account) for the year ending 31/03/20XX

	20XX £m
Sales revenue	600
Cost of sales	(400)
Gross profit	200
Expenditure	(150)
Profit before taxation	50
Corporation tax @ 19%	(9.5)
Net profit attributable to the equity holders	40.5

Widget Manufacturing plc sales revenue for the given trading year was £600 000 000, meaning it had sold widgets to that money value. It's cost of sales was £400 000 000, meaning that it is direct cost of production in terms of raw materials and labour to make £600 000 000 sales revenue was £400 000 000. This gave Widget Manufacturing plc a gross profit of £200 000 000 – that is, £400 000 000 subtracted from £600 000 000. However, Widget Manufacturing plc expenditure was £150 000 000. This consists of overheads, such as insurance, maintenance and depreciation, incurred in operating its widget manufacturing plants. Overheads being indirect costs.

Ultimately, this meant Widget Manufacturing plc posted a profit before taxation of £50 000 000, of which corporation of tax of 19% to the £ was levied by Her Majesty's Revenue and Customs on behalf of the government. Meaning that Widget Manufacturing plc had £40 500 000 profit to distribute to its shareholders in the form of dividend payments. This is the profit for the year or the net profit.

Example 2

The profit and loss account for Frying Tonite (a takeaway) for the year 2021-2022.

	£	£
Sales		96 500
Less Cost of sales		
Opening stock	3 900	
Purchases	28 600	
Less Closing stock	4 700	27 800
Gross profit		68 700
Less Expenses		
Wages	27 880	
Rent	4 600	
Rates	2 350	
Travel	2 600	
Sundries	860	
Electricity	300	
Total expenses		38 590
Net profit		30 110

It is normal practice for profit and loss accounts to be produced for 12 months trading. However, the 12 months do not have to run from January to December – they can cover any 12 consecutive months.

The profit and loss account of Frying Tonite shows the income the business has received from its trading activities over the last 12 months, and all the money it has spent performing these business activities over the same 12 months. Because the profit and loss account looks back over the past twelve months the first line always gives the business's trading income for the year: i.e. the revenue gained from the goods the business has sold, or the services it has provided. Trading income can be called different things: 'sales' or 'revenue' or 'income' or 'turnover', but they all mean the same thing.

The first section of a profit and loss account is sometimes referred to as the trading account. The trading account shows what the sales of the business have been and the direct costs of making those sales – known as the cost of sales. When we take the cost of sales away from the sales of a business, the figure we are left with is known as gross profit. This is the first figure of real importance.

The extract below shows the trading account for Frying Tonite. The total income received by Frying Tonite for their sales of chips, fish, pies etc. during the year 2021–22 is £96 500. Cost of sales – these are the direct costs of purchasing the stock that is used in sales. For Frying Tonite this would include fish, oil, potatoes etc.

	£	£
Sales		96 500
Less Cost of sales		
Opening stock	3 900	
Purchases	28 600	
Less Closing stock	4 700	27 800
Gross profit		68 700

To calculate the cost of sales, we must first add opening stock (i.e. the stock the business has at the beginning of the year) to purchases the business has made during the year. Once we have done this, we take away closing stock (i.e. stock left over at the end of the year). We take away closing stock as it has not yet been sold or used, so it is not part of the cost of sales.

Cost of sales = opening stock + purchases – closing stock

So, for Frying Tonite the calculation would be: £3 900 + £28 600 – £4 700 = £27 800

The figure for the cost of sales is placed in the second column, below the sales figure.

Gross profit is calculated by taking the cost of sales away from sales.

For Frying Tonite sales are £96 500, the cost of sales are £27 800, so: £96 500 – £27 800 = £68 700

Gross profit is an indicator of how efficient the business is at making and selling its product. However, the figure for gross profit on its own does not help us judge the level of efficiency: after all, a large business is likely to have a much higher gross profit figure than a small business, but the small business could be better run or have less stock damage.

Net profit is often referred to as 'the bottom line' in business. This is for two reasons. Firstly, on a simple presentation of a profit and loss account, it is the actual bottom line. Secondly, the net profit figure tells us the actual profits of the business after all costs have been paid. How we calculate net profit is shown below.

Less Expenses	£	£
Wages	27 880	
Rent	4 600	
Rates	2 350	
Travel	2 600	
Sundries	860	
Electricity	300	
Total expenses		38 590
Net profit		30 110

The gross profit for Frying Tonite has already been calculated in the trading account.

Now we have to allow for expenses. Expenses are the indirect costs that the business incurs. These expenses are not direct costs of production. Examples of expenses include rent, interest payments and electricity. The total expenses figure is placed in the second column, beneath the figure for gross profit. To find Frying Tonite's net profit we will have to total these expenses and take them away from the gross profit.

To calculate net profit, we simply take the figure for total expenses away from the gross profit figure.

For Frying Tonite, gross profit is £68 700, expenses are £38 590.

So: £68 700 – £38 510 = £30 110 net profit.

Net profit is an indicator of how efficient the business is overall; this is because all the business's revenues and expenses are included in the calculation. Like the figure for gross profit, net profit on its own does not help us judge the level of efficiency. A large business is likely to have a much higher net profit figure than a small business because it manages its expenses better.

The appropriation account is the final section of the profit and loss account and shows how the profit or loss is distributed. Before the profit is distributed the business will have to pay tax on its profits.

Frying Tonite will have to pay £6 000 in corporation tax – deducting this figure will give the profit after tax. As a private limited company Frying Tonite will have to pay out dividends to its shareholders – this is then deducted from the profit after tax figure to give the final retained profit figure of £16 110. The retained profit can then be reinvested into the business to help the business grow.

	£	£
Net profit		30 110
Tax		6000
Profit after Tax		24 110
Dividends		8000
Retained profit		16 110

The presentation of profit and loss accounts for unlimited and limited business can vary greatly – there is no one correct way of presenting this financial information. Sole trader accounts tend to be more straightforward and may not include an appropriation section as all the profit will go to the sole trader.

Private and public limited companies tend to be more complicated and can take a number of different layouts. Limited companies have to provide an income statement, which shows the same information as a profit and loss account: a financial statement that measures a company's financial performance over a specific time, including the net profit or loss incurred.

Other names used include the 'profit and loss statement' or 'statement of revenue and expense.'

The profit and loss account is an important financial statement, not just for the owners of the business, but also for all the stakeholders of the business. The information and calculations in a profit and loss account can be used to judge the performance of the business and the likely success or failure for future years. These stakeholders include:

- The owners – to see how much return they are getting on their investment, or just to see if all the hard work put into the business is worthwhile.

- The employees – to see if their jobs are safe and if the business has a long term future. For larger and more established businesses with a high number of employees, the information in
  the profit and loss account could be used when negotiating wage increases.

- Suppliers – use the information to see if the business is likely to continue being a customer and if trade credit is to be given. It is more likely that a business making a large profit will be able to obtain good trade credit arrangements.

- Competitors – for incorporated businesses (Ltd and Plc) the profit and loss account must be available for anyone to see. A competitor can use this information to improve their understanding of competitors trading activities and how they make their profit.

- Investors and shareholders – the information in the profit and loss account will give an indication of the profitability of the business and how risky investing in the business will be. Shareholders can see if their investment in the business is worthwhile, and if they are likely to receive rewarding dividend payments and an increase value in their shares.

- The government – will use the profit and loss account to calculate how much tax the business should pay.

When interpreting the profit and loss account, it is not advisable just to look at one year in isolation. It is much more useful when the main components of a profit and loss account are compared over time and/or with competitors. When judging business profitability and performance, it is important to look at trends and to see how well a business has performed over a number of years.

Example

Stephen Collins, who owns a newsagents shop called Newsround, in Liverpool. The profit and loss account for the last three years:

	2019	**2020**	**2021**
Sales revenue	£150 000	£190 000	£200 000
Cost of sales	£80 000	£100 000	£100 000
Gross profit	£70 000	£90 000	£100 000
Expenses	£55 000	£55 000	£56 000
Net profit	£15 000	£35 000	£44 000

This table of the main components of a profit and loss account gives a wealth of information about the business. The sales revenue has increased, especially between 2019 and 2020, which means that Stephen has managed to increase his number of customers, or, increased the amount each customer spends in his shop. He might have done this in a number of ways, such as increasing prices, improving the range of items he sells in the shop, or carrying out effective promotional activities.

The cost of sales have increased, which is expected as this is directly linked to the number of products he sells. However, between 2020 and 2021, the cost of sales has stayed the same, even though the sales revenue has increased. This suggests that he may have found alternative suppliers for his products, who charge less for the products, or that he has negotiated lower prices with his current supplier. As his cost of sales did not increase in the last two years, his gross profit has increased by £10 000 – this is a very positive aspect of his business.

The expenses for his business have increased slightly over the three years, but this is very stable, which suggests that Stephen has a good control of the expenses that are not directly linked to his cost of sales. These costs are stable and have resulted in a very good net profit over the last two years. It is possible that in 2019, Stephen was still establishing his business and once he obtained a good number of loyal customers his expenses (overheads) were easily covered by his sales revenue.
By using information over a number of years, it is much easier to analyse the financial performance of a business in order to give an accurate and appropriate summary. However, it may not give a full picture of the business performance. It is, therefore, important to consider other qualitative information that gives a complete picture and a context of the environment the business is operating in. For example, for Stephen's shop in Liverpool, in 2021 another local newsagent, which was Stephen's main competitor, closed down. In this context, he should have gained more customers than he did and it is possible to consider that Stephen's shop did not actually perform as well as expected, and by just looking at the profit and loss account figures, a true picture is not given.

Balance sheet

A balance sheet (statement of financial position) is a statement of a business's assets (what a business owns) and liabilities (what a business owes) at a specific point in time (usually the last day of a particular trading period, but a 'snapshot' can be created at any time).

The components of a balance sheet are as follows:

- Fixed (or non-current) assets, which includes land, buildings, machinery and vehicles. Fixed assets are expected to be retained in the business for more than a year, therefore having a long-term role in the business and are used to produce the output of the business.

- Current assets, which includes stock (sometimes called inventory), debtors (also known as "trade and other receivables") and bank and cash balances. Current assets are expected to change value often, due to the normal course of business trading. Debtors are customers who haven't yet paid the business for the goods they have received, but since the business has a claim to the money, then the money owed by customers is still considered an asset.

- Current liabilities, which includes the trade creditors of the business (also known as "trade and other payables") and bank overdrafts. Current liabilities are debts that are normally paid within a year. Current liabilities arise normally as part of normal business practice, for example when a supplier agrees to grant a business trade credit or when a business has an overdraft facility that they are making use of. These examples will remain a currently liability until they have been paid.

- Long-term (or non-current) liabilities, which are often bank loans and mortgages, which are repaid over more than a year.

- Net assets are calculated by adding both fixed and current assets together and then deducting current liabilities and long-term liabilities.

- Net current assets might also be shown in a balance sheet, which is the difference between current assets and current liabilities.

- Shareholders' funds (also called shareholders' capital) is money that has been invested into the business by the owners (through the sale of shares), and also includes retained profit and reserves. Reserves or retained profit is money that has been kept in the business from profits made by the business. The owners (or directors) may decide to reinvest part of the profit earned back into the business to help it grow and become more profitable in the future. Reserves are not normally held as cash, but are used for buying assets for the business.

The reason it is called a balance sheet is because the total of the company's assets will always equal the total of its liabilities. This is shown in the equation:

Fixed Assets + Current Assets = Long-term Liabilities + Current Liabilities + Shareholders' Funds

This equation can be rewritten as: Fixed Assets + (Current Assets – Current Liabilities) = Long-term Liabilities + Shareholders' Funds

Example

A balance sheet for Widget Manufacturing plc.

Widget Manufacturing plc **Balance sheet as at 31/03/20XX**	
	20XX **£m**
Non-current assets (fixed assets)	400
Current assets	
Inventories	25
Trade and other receivables	10
Cash at bank and in hand	15
Total current assets	50
Total assets	450
Current liabilities	30
Net current assets (working capital)	20
Total assets less current liabilities	420
Non-current liabilities (long-term liabilities)	75
Net assets	345
Capital and reserves	
Share capital	300
Retained profits	45
Total shareholders' capital	345

Widget Manufacturing plc's non-current assets (fixed assets) equal £400 000 000 at this point in time. These are owned assets by the business which will be put to work within the business for well over 12 months – the long-term, that is. For example, assets such as plant and machinery.

Current assets are assets that a business owns but change value frequently over the course of 12 months – the short-term, that is. At Widget Manufacturing plc these are inventories, trade and other receivables, and cash at bank and in hand of £50 000 000.

Current liabilities are debts that a business owes within 12 months. This is liable to be in the form of debts owing to suppliers. These equal £30 000 000 for Widget Manufacturing plc.
Net current assets is the working capital of the business, the money within the business to pay day-to-day costs. It is £20 000 000 in the case of Widget Manufacturing plc.
Non-current liabilities (long-term liabilities) liabilities that a business owes for over 12 months – the long-term, that is. Liabilities such as loans or mortgages that need repaying little-by-little; these equal £75 000 000 at Widget Manufacturing plc.

Net assets is the value of a business at a given point in time once liabilities have been balanced out from assets. Widget Manufacturing plc's value is £345 000 000. That would be the book value of the organisation.

Capital and reserves show where a business has sourced its financial capital. In this instance, it has come from shareholders and retained profits.

Example 2

The balance sheet below is the conventional method for presenting the components outlined above. Balance sheets normally present two years' financial data: the current year and the previous year, used for making comparisons and to enable the calculation of ratios**.**

	2020 £m	**2021 £m**
Fixed (non-current) Assets	750	800
Current Assets		
Stock	160	157
Debtors	130	142
Cash at bank	75	49
Total Current Assets	365	348
Current Liabilities		
Trade creditors	217	228
Other	16	79
Total Current Liabilities	233	307
Long Term (non-current) Liabilities	576	465
Net Assets	306	376
Shareholders' Capital		
Share capital	198	198
Reserves	108	178
Total Shareholders' Capital	306	376

Working capital is the money needed in the business to pay for the day-to-day expenses of a business.

Working capital is calculated by taking the value of current liabilities from current assets:

Working capital = current assets - current liabilities

Working capital shows the financial strength of business over the short-term, the higher the level of working capital then the more able a business is to meet demands from creditors for payment. Positive working capital also enables a business to pay day-to-day expenses like wages, salaries, overheads and other operating expenses. It is quite possible to have negative working capital, that is current liabilities are greater than current assets (this would be shown as a number in brackets to illustrate that it is negative).

It is important to realise that different businesses will have different working capital needs. For example:

- It is likely that a larger business will have a need for a larger amount of working capital than a small business.
- A retail business, that needs to hold a high level of stock, may need a high level of working capital.
- The number of debtors and creditors a business has.

Cash flow statement

The cash flow details receipts of inflows and payments of outflows of a business, for cash control purposes. A cash flow can take the form of a forecast or statement.

A cash flow forecast predicts the receipt of inflows and payment of outflows, including how it will affect the overall cash balance of an organisation.

By contrast, a cash flow statement summarises the actual receipts of the inflows and payments of the outflows of an organisation, including how it affected the overall cash balance of an organisation.

Example

Underneath is a cash flow statement for Widget Manufacturing plc.

Widget Manufacturing plc cash flow statement				
	March	**April**	**May**	**June**
	£m	**£m**	**£m**	**£m**
Receipts				
Sales	50	40	40	50
Investment return				30
Capital introduced	10			
Total receipts	60	40	40	80
Payments				
Wages	30	30	30	30
Raw materials	10	5	10	3
Overheads	1	1	1	1
Promotion	1	5		1
Miscellaneous		1		
Total payments	42	42	41	35
Net cash flow (+ / -)	18	(2)	(1)	45
Opening balance	10	28	26	25
Closing balance	28	26	25	70

This particular cash flow statement covers four months. It represents the actual cash flow and residual cash balance of Widget Manufacturing plc in those four months.

Sales is cash generated from the sales of widgets – this fluctuated from £40 000 000 in April and May to £50 000 000 in March and June. This would be an operational return. However, Widget Manufacturing plc had a return of £30 000 000 in June from an investment they previously made. Businesses will make such investments as part of their trading operation, sometimes as a means of diversifying their trading operations. Widget Manufacturing plc introduced fresh capital into the business in March, £10 000 000 cash, to maintain a healthy cash balance.

The wages payments of Widget Manufacturing plc were £30 000 000 per month over the four months. Raw materials payments fluctuated over the four months, from £3 000 000 in June to
£10 000 000 in both April and June. The overheads payments were £1 000 000 per month over the four months. There was one miscellaneous payment of £1 000 000 in April. In summary, net cash flow of Widget Manufacturing plc was positive in March and June, yet negative in April and May. However, the opening and closing cash balances were positive in all of the four months.

Influence of accounting concepts

With reference to the income statement (profit and loss account) and balance sheet accounting concepts must be applied to their construction.

Accounting concepts are concepts that an accountant must follow when producing financial statements to ensure they reflect a true and fair view of the financial position of an organisation. By doing so, it enables for the easy comparison of one organisation's financial statements with that of another business. Such accounting concepts underpin the construction of financial statements. Accounting concepts are recognised across the globe and are the foundation of all business accounting.

The main accounting concepts include:

- Going concern – a business is presumed to continue trading for the foreseeable future. It will continue to trade, buy from suppliers and pay employees. This is important as there is an assumption that the business will continue to use its assets to earn profit in the future.

- Accruals and matching – accruals states that sales revenue should be recorded when it is earned, rather than when it is received. This affects trade credit. The concept of matching states that the revenue for a business for a particular accounting period should be matched against the expenditure incurred in in the same accounting period. Income statements (profit and loss accounts) and balance sheets should be prepared at regular and constituent periods of time, usually at the end of each year (known as the accounting period).

- Consistency – this concept relates to consistency in preparing financial statements. What was done in the previous financial years should be done again. Any changes need noting in the financial accounts.

- Prudence – a business should not overestimate the amount of revenue received or underestimate the amount of expenses paid. In addition, a business should not overestimate the assets it owns or underestimate the liabilities it owes. Accountants should therefore be cautious in preparing annual accounts, monetary values should be understated rather than overstated.

Ratio analysis

Accounting ratios are useful tools for assessing the financial performance of an organisation.

The financial data contained in the annual accounts of a business– the income statement (profit and loss account) and the balance sheet, can be used to carry out ratio analysis.

Ratio analysis allows a business to analyse and evaluate its:

- profitability
- liquidity
- efficiency

The main ratios used to analyse business performance include:

Profitability	Liquidity	Efficiency
• Gross profit margin	• Current ratio	• Inventory (stock) turnover
• Net profit margin	• Acid test ratio	• Receivables collection period
• Return on capital employed		• Payables collection period
		• Asset turnover
		• Gearing

Calculation of profitability ratios and liquidity ratios have been covered in AC2.1 in this resource.

Gross profit margin % measures the gross profit made on sales revenue.

Net profit margin % measures the net profit made on sales revenue. Essentially, it considers if a business has effectively been able to control its cost of sales and overheads, since high or increasing cost of sales and overheads will reduce profit.

Return on capital employed measures the return a business has made on the capital it has invested. The consideration here is, does the return compensate for the risk and is the return big enough when compared to other investment options.

As far as profitability ratios are concerned, the higher the better. A business should monitor its GPM %, NPM % and ROCE % overtime and determine if they are improving or worsening over time. Additionally, there will be industry averages for GPM %, NPM % and ROCE % and a business must monitor if its GPM %, NPM % and ROCE % are better or worse than the industry averages.

Example

The profitability ratios have been calculated for XYZ plc, using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Gross profit margin % = (Gross profit / Sales revenue) * 100

33.33% = (£200 000 000 / £600 000 000) * 100

Net profit margin % = (Net profit / Sales revenue) * 100

6.75% = (£40 500 000 / £600 000 000) * 100

Return on capital employed % = (Net profit / Capital employed) * 100

11.74% = (£40 500 000 / £345 000 000) * 100

On the face of it, all the profitability ratios look acceptable – at 33.33%, 6.75% and 11.75%. However, XYZ plc would need to compare these with previous years profitability ratios and, to judge if they are more or less profitable than their competitors, with the industry averages for widget manufacturing. On their own they only give limited information and a full analysis of the businesses' performance cannot be carried out.

Liquidity ratios

Liquidity ratios measure the ability of a business to repay its debts as they fall due, by considering its solvency and are expressed as ratio to 1.

For the current ratio: the ideal ratio is between 1.5 and 2: 1. For the acid test ratio: the ideal ratio is 1: 1. However, industry averages may diverge from these universal ideals.

Liquidity ratios consider current assets against the current liabilities. In essence, what a business owns against what is owes. The acid test ratio is a more severe measure of liquidity, as it does not consider inventory a current asset that can be turned to cash quickly. For it takes time and effort to sell inventory, especially in a slow market.

Example

Underneath, the liquidity ratios have been calculated for XYZ plc, using the relevant financial data in the balance sheet:

Current ratio = Current assets / Current liabilities

1.67: 1 = 50 000 000 / 30 000 000

Acid test ratio = (Current assets – Inventory) / Current liabilities

0.83: 1= (50 000 000 – 25 000 000) / 30 000 000

XYZ plc's current ratio is within the parameters of the ideal current ratio. The business having 1.67 of current assets to cover every 1 of current liabilities. Thus, it has sufficient net current assets or working capital. On the other hand, the acid test ratio of XYZ plc is below the ideal of 1: 1, by 0.17. On the face of it, this is not significantly below and may be acceptable for the industry XYZ plc operates in. The key here is to consider the historic acid test ratio for XYZ plc, to see if it has deteriorated over time.

Efficiency ratios

Efficiency ratios are more varied than the profitability ratios and liquidity ratios. Yet they all measure how efficiently a business makes use of its resources in some way or other. The main ones include:

- **Inventory**

Inventory (stock) turnover = Cost of sales / Stock
Inventory (stock) turnover = (Stock / Cost of sales) * 365

Inventory (stock) turnover measures an organisation's sales-through-rate of inventory. It is either measured in terms of 'times' or 'days'. That is how many times during the trading period it manages to sell its stock in its entirety. The more times the inventory is sold the better. Or how many days during the trading it takes it to sell its stock in its entirety. The less days the better here. Again, inventory (stock) turnover varies from industry to industry.

Example

Using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Inventory (stock) turnover = Cost of sales / Stock

16 times = £400 000 000 / £25 000 000

Inventory (stock) turnover = (Stock / Cost of sales) * 365

22.81 days = (£25 000 000 / £400 000 000) * 365

The inventory (stock) turnover at 16 times over the course of the trading or every 22.81 days is healthy.

- **Creditors**

Receivables collection period = (Creditors / Cost of sales) * 365

Receivables collection period measures in days how quickly an organisation's pays it trade creditors for supplies. There is no ideal receivables collection period. Notwithstanding this, a business must strike the balance of not paying its trade credit too quickly or, on the other hand, too slowly. Paying too quickly may put a strain on an organisation's cash flow and paying too slowly may damage relations with suppliers. It is important that a business adheres to any trade credit terms negotiated with suppliers, for they depend on suppliers to supply the materials and goods they need.

Example

Using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Receivables collection period = (Creditors / Cost of sales) * 365

13.69 day = (£15 000 000 / £400 000 000) * 365

- **Debtors**

Payables collection period = (Debtors / Cost of sales) * 365

Payables collection period measures in days, how quickly a business can collect debts for its customers. There is no ideal payables receivables collection period. However, the payables collection period should be shorter than the receivables collection period to ensure the business has a positive cash flow.

Example

Using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Payables collection period = (Debtors / Cost of sales) * 365

9.13 days = (£10 000 000 / £400 000 000) * 365

Receivables collection period at 13.69 days and payables collection period at 9.13 days are healthy. Importantly, the payables collection period is shorter than the receivables collection period.

- **Assets**

Asset turnover = Sales revenue / Net assets

Asset turnover measures the productivity of an organisation's assets, say in terms of considering how much pound of sales revenue each pound of asset invested in generates. Its unit of measurement is pounds. Acceptable asset turnover varies from industry to industry, depending on prevailing market conditions.

Example

Using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Asset turnover = Sales revenue / Net assets

£1.14 = £600 000 000 / £525 000 000

The asset turnover is the least impressive ratio at £1.14, as the sales revenue generated by the assets employed is not significant. However, this could be explained if the business was a manufacturer as a manufacturer will have heavier investment in non-current assets (fixed assets).

- **Capital structure**

Gearing = (Borrowing / Equity) * 100

Gearing measures how much of an organisation's capital structure consists of debt. There are three main sources of capital for a limited company, namely: retained profit; equity; and debt.

Debt requires the repayment of the principal and interest, usually on a monthly basis. This can put a strain on cash flow and can increase the cost of capital. Hence it is not sensible for a business to have a high gearing rate, which is expressed in percentage. A business with a gearing rate of under 50% is considered to be lowly geared, whereby a business with a gearing rate of above 50% is considered to be highly geared.

Example

Using the relevant financial data in the income statement (profit and loss account) and balance sheet:

Gearing = (Borrowing / Equity) * 100

18.75% = (£75 000 000 / £400 000 000 * 100

This is a low level of gearing at 18.75%, allowing plenty of scope to borrow from a financial institution in the future if need be.

A business with low gearing is one that is funded (financed) in the main by share capital (equity) and reserves, whilst one with high gearing (considered generally to be over 50%) is funded in the main by loan capital.

But it is important not to be fixated with these percentages in making a snap judgement, since there might be other information to be considered in putting the gearing ratio into context, such as industry averages and business aims.

A highly geared business is one where the largest proportion of the funding of the business has come from borrowing. When high gearing exists, then interest paid on debts reduces profits available to shareholders and if interest rates increase then the costs of the business can rapidly increase. But high gearing is not necessarily a bad thing. It may indicate that a company is adventurous in its expansion plans and may have taken the opportunity to invest by borrowing at low rates. If we find a highly geared company, then we must look at the type of business involved. Are its profits or sales growing fast? Is the level of gearing falling? If both these factors are found, then we may be able to comment favourably on the gearing ratio. But on the other hand, high gearing will mean that a larger proportion of profits are used to pay interest on loans instead of being reinvested or paid to shareholders.

Even if we take a positive view of high gearing it is worth noting that many company failures over recent years have been accompanied by spectacularly high gearing ratios. High gearing leads to high interest repayments and as soon as profits start to fall, the banks get nervous, and can withdraw their support.

A company with low gearing is one where the largest proportion of the funding of the business has come from investment by shareholders. As low gearing will be a result of a low level of borrowing this can indicate that the business is growing through reinvestment of profits and is minimising risk. But low gearing may indicate that a business is not aggressive enough to survive and may not be seeking opportunities for growth. Low geared companies tend to have less interest to pay on their borrowing which means higher profit levels and therefore more money to distribute as dividends.

Low geared business might be concentrating on investing from cash flow and not overextending itself. But on the other hand, the business could be too conservative in its outlook and is missing out on investment opportunities and new markets. The management of the business might realise too late that in the long run, borrowing to invest and to grow should have been the option chosen.

Value and limitations of ratio analysis

Accounting ratios are clearly valuable:

- Considering profitability, liquidity and efficiency as they do, all things that contributed to the long-term success of an organisation.
- Enable a business to remedy deteriorating levels of profit, liquidity and efficiency.
- Aid organisational decision making.

On the other hand, accounting ratios have certain limitations, including:

- They are of limited usefulness if not considered historically or against industry averages.
- Do not sufficiently factor in qualitative factors. As a result, they provide a partial analysis – the 'what?' but not the 'why?'.
- Depend on the quality of financial statements – the income statement (profit and loss account) and balance sheet.

In order to evaluate the financial performance of a business it is necessary to take into account all of the ratios as well as any non-financial information that may be available (such as customer satisfaction, quality, employee motivation etc.).

If the gross or net profit ratio is low or has fallen, then reasons should be looked for to explain this. Perhaps sales have fallen, or the cost of sales (or expenses) has risen. The business will need to address these issues. If return on capital employed is low, then the business may be in danger of being taken over by another business which can offer shareholders a better rate of return. If the liquidity ratios are low, the business may be running into short-term cash-flow problems which they will need to address. If gearing is low, it might be a good idea to borrow more money in order to take advantage of opportunities to expand the business. On the other hand, if it is too high it might be better to delay expansion plans until some of the debt has been repaid. A businesses performance should also be compared to generic benchmarks but with the caution.

It is important to provide as much context as possible in the evaluation and realise that it is important that when making a judgement on a business's financial performance that comparison to previous years' performance and the performance of competitors or other businesses is necessary. It is also important to consider the wider business or economic environment. In times of recession most businesses will be negatively affected and in these conditions the objectives of the business may change to adapt to a challenging business environment.

Any evaluation should take into account the nature of the business and bear in mind that the accounts may have been window-dressed (the manipulation of financial accounts by a business to improve the appearance of its performance) in order to create a more favourable impression than is actually the case. Tesco's financial results had to be restated in 2014 because they had treated future anticipated discounts from suppliers as current income. As a result, the revised accounts painted a far more disappointing picture than those originally published.

AC3.2 Assess the relevance of forecasting and budgeting to organisational decision-making

Cash flow forecasting

Cash is the notes and coins a business owns at given point in time. It could be the money in the till, in a safe located as its commercial premises or deposited in its bank account. Cash is a non-current asset and crucial asset to any business.

Cash flow is the movement of cash into and out of a business at a particular point in time. Cash flows into and out of businesses all the time.

Inflow – this is also known as income or revenue or turnover. It is the money which enters the business's tills or bank account, as a result of selling goods and services.

Outflow – this is expenditure, it is money which leaves the business to pay for the day-to-day costs of the business

Businesses will try to ensure that the amount of money flowing into the business will be greater than the amount of money flowing out of the business. In time, this should give them a positive bank balance.

A business must manage its cash flow in order to have enough money to pay its bills on time. A major reason why many small or new businesses fail is the failure to manage its cash flow, this involves making sure that customers to the business pay their bills on time, as well as making sure that the business can pay their own bills on time.

A business should always try to receive inflows as soon as possible (consideration of promotional offers such as buy now and pay later, can cause a problem if the business does not have a reserve of money in their bank account) and pay outflows as late as possible, or after they have received their inflows.

Without cash, suppliers will not provide materials, electricity will not be available and workers will not work. An important aspect of cash flow is the management of the timing that inflows are received and that outflows are paid. It is possible for a business to be profitable, yet still fail, as it is unable to manage its cash flow effectively.

Without exception, businesses need a suitable amount of cash to operate in the short- and long-term, but especially in the short-term. Amongst other things, cash is used to:

- Purchase inventory, for trade credit is not always granted by suppliers or only granted up to a certain amount of the value of the order.
- Pay various bills – water, telephone, heating oil or gas, or electricity.
- Meet payroll.
- Pay business rates.
- Operate a cash float, to be able to give customers change if the exact amount of cash is not tendered for a sales transaction.

In order to have suitable amounts of cash, businesses will prepare a cash budget. A plan that balances its budget cash requirements with its actual cash reality.

Conversely, it is also considered that too much cash is bad for a business. If large amounts of cash are just sitting in the safe or in the bank, then a major resource or asset is not being used effectively to contribute towards business activity and profitability.
It is important to understand that cash is different to profit. Profit is the calculation of revenue minus costs and in most cases, is the primary objective of the business. Cash is the amount of money available to a business to pay its bills. It must not be assumed that just because a business is profitable, it has a good cash flow, likewise it shouldn't be assumed that an unprofitable business has a poor cash flow.

A cash surplus may be caused by the following:

- A sales promotion causing an unexpected sales-through-rate of inventory.
- A seasonal demand surge by customer-consumers.
- A direct competitor ceasing to trade, meaning the business gains the custom of its direct competitors – together with additional market share and control.
- Some efficiency measures within an organisation, leading to increased capital or labour productivity within an organisation.
- Effective procurement of inventory, meaning that supply and demand are in equilibrium and the market clears. Thus, a business holds little excess stock.

To the counter, a cash deficit may be caused by the following:

- A business granting too generous trade credit terms to its customers. And – in turn, worse still – trade creditors become bad debtors.
- Overstocking.
- Being unable to sell its stock
- Increase in operating expenses/overheads.
- An unforeseen, one-off operating expense, for example, the replacement of a machine.

Importantly, businesses need to monitor and, more to the point, control its cash flow. Otherwise it will not have a suitable amount of cash to cover its spending. Not too much, not too little: that is the golden rule as far as cash is concerned.

A cash flow statement records an organisation's past cash flow. Whereas a cash flow forecast predicts an organisation's future cash flow.

In order to help businesses manage their cash flow, they should produce a cash flow forecast. A cash flow forecast is a financial document that shows the expected flows of cash into and out of a business over a specific period of time, usually 6 or 12 months. To ensure that the forecast is realistic and reliable, careful and honest considerations of all the inflows and outflows of the business need to be given and the forecast should be for the immediate future – such as the next 6 months.

An accurate forecast (as much as it can be, considering it is a prediction) will allow the business to identify any potential periods of time when there is more money flowing out of the business, than there is flowing in, and the effect this has on the bank balance. These potential cash flow problems can then be identified and strategies can be put in place to solve them.

As with all forecasts (just think of the weather forecast), looking into the future is uncertain. However, with the use of experience, consideration of market factors, economic conditions and knowledge of customer behaviour, a cash flow forecast can help a business obtain a clear understanding of how the business is likely to perform in the next 6 or 12 months. It can also allow owners and managers to be able to identify specific times when the business may need additional funding, or when it may have to reduce its costs.

A cash flow forecast is made up of three parts:

Inflows

Revenue:	This will mainly be the income received from selling products or services – this can include cash sales (immediate payment) and debtor payments (when products or services are sold on credit, in other words, buy now pay later). Revenue can also include money invested into the business by the owners or new investors, a bank loan or income from selling assets.
Total revenue:	This is the sum of all the different revenues received.

Outflows

Expenses:	This includes any money spent by the business. There are many different types of expenditure – some examples include wages, materials, loan repayments, rent, rates, advertising, electricity, travelling and sundries (various small items with little value).
Total expenses:	This is the sum of all the expenses that have to be paid.

Balances

Net cash flow:	This is a calculation that subtracts the total expenses from the total revenue.
Opening balance:	The money available at the beginning of the month.
Closing balance:	The money available at the end of the month. It is calculated by adding the net cash flow to the opening balance. The closing balance for one month becomes the opening balance for the next month.

The cash flow forecast is not a compulsory document required by business regulators (unlike the profit and loss account and balance sheet) therefore, there are a number of different formats or templates a business could use.

Example 1 looking at cashflow statements and cash flow forecasts

A manufacturer has prepared a cash flow statement for the past three-months trading, as illustrated:

Manufacturer cash flow statement			
	Jan	**Feb**	**Mar**
	£	**£**	**£**
Receipts			
Cash sales	100 000	110 000	115 000
Credit sales	200 000	220 000	150 000
Total receipts	300 000	330 000	265 000
Payments			
Wages-salaries	60 000	65 000	60 000
Raw materials	10 000	11 000	12 000
Overheads	20 000	20 000	20 000
Loan repayments	5 000	5 000	5 000
Sundry	1 000	500	600
Machinery upgrade	0	500 000	0
Total payments	96 000	601 500	97 600
Net cash flow	204 000	(271 500)	167 400
Opening balance	10 000	214 000	(57 500)
Closing balance	214 000	(57 500)	109 900

The manufacturer's cash flow is positive in January, having a net cash flow of £204 000. This represents a cash surplus, the cash balance being positive. However, because of the need to upgrade machinery, the cash flow is negative in February – having a net cash flow of - £271 500. This represents a cash deficit, the cash balance being negative. This poses a temporary cash flow problem for the manufacturer. This cash flow problem is remedied in March though. Since the manufacturer has strong cash inflow, relative to its cash outflow.

Additionally, the manufacturer has prepared a cash flow forecast for the future three-months trading, as illustrated.

Cash flow forecast			
	Apr	**May**	**Jun**
	£	**£**	**£**
Receipts			
Cash sales	105 000	115 000	70 000
Credit sales	140 000	150 000	140 000
Capital introduced	0	1 800 000	0
Total receipts	245 000	2 065 000	210 000
Payments			
Wages-salaries	60 000	60 000	60 000
Raw materials	13 000	14 000	16 000
Overheads	20 000	30 000	50 000
Loan repayments	5 000	5 000	5 000
Sundry	0	4 000	2 000
Distribution centre purchase		2 000 000	0
Total payments	98 000	2 113 000	133 000
Net cash flow	147 000	(48 000)	77 000
Opening balance	109 900	256 900	208 900
Closing balance	256 900	208 900	285 900

The manufacturer is planning on purchasing a distribution centre in May. It forecasts that its net cash flow will be negative by £48 000 as consequence of doing so. However, the introduction of capital of £1 800 000, together with the forecasted closing balance of £256 900 carried forward from April should ensure a surplus of £208 900 cash.

Generally speaking, a business can only remedy a cash flow deficit by either increasing receipts or decreasing payments in some way or other. In other words, sell more or spend less.

Example 2 cash flow forecast

Benny is forecasting his cash flow for the next six months for his book shop. Using his experience, he has entered his predicted inflows and outflows and calculated the following information:

	OCT (£)	NOV (£)	DEC (£)	JAN (£)	FEB (£)	MAR (£)
Revenue						
Cash sales	7 000	7 000	9 000	5 000	5 000	6 000
Bank loan	0	0	0	500	0	0
Total revenue	7 000	7 000	9 000	5 500	5 000	6 000
Expenses						
Stock	2 500	4 000	3 500	2 000	2 000	2 500
Rent	700	700	700	700	700	700
Gas & electricity	120	120	120	120	120	120
Wages	2 500	2 500	3 500	2 500	2 500	2 500
Other costs	500	750	400	250	700	250
Total expenses	6 320	8 070	8 220	5 570	6 020	6 070
Net cash flow	680	(1 070)	780	(70)	(1 020)	(70)
Opening bank balance	500	1 180	110	890	820	(200)
Closing bank balance	1 180	110	890	820	(200)	(270)

Benny's revenue mainly consists of the sales of his books. He knows from experience that he sells more books in December, due to customers buying books as Christmas presents. In January, he intends to sell some old computer equipment he no longer uses.

One of his biggest expenses is the books he buys from suppliers, which he then sells in his shop – these increase in November as he stocks his shop for the Christmas sales period. It is likely that he bought this stock in October, but received 30 days credit for the books he bought, so it only becomes an expense when he pays his bill. His rent and electricity are relatively easy to forecast as these expenses are fixed in the short-term, and he hasn't had any indication from his landlord or his gas and electricity suppliers that these will increase in the next 6 months. The wages he pays to his staff and to himself are another big expense. Again, these are fairly easy to predict, though he knows that over the Christmas period his shop is open for longer, so he will have to pay his workers for the extra hours they work. He has also forecasted his other costs (sundries). He may have found this difficult as these costs may be more unpredictable – he has attempted to be as accurate as possible, though he knows that these expenses may be different to what he expects.
Benny's cash flow forecast shows that he predicts he will receive more inflows than outflows in November and December only, and that for four months his net cash flow is negative. This prediction will alert him to try and do something to try and increase his revenue and/or reduce his expenses in these months. In the long-term, he will be unable to build a successful business if his net cash flow is negative in most months.

What will worry Benny is the trend in his closing balance – he predicts that this will gradually worsen over the 6 months and by February he will have no money in his bank account. In fact, he will be overdrawn, which means that he will owe the bank money, as he will spend more than he thinks he will receive in revenue. He could arrange an overdraft to cover this, but in the long-term he will need to look at how he can use this cash flow forecast to improve his cash flow.

A cash flow forecast template can also very easily be set up using an Excel spreadsheet. Formulas can be used in the totals and balances rows to allow for the easy calculation and change predicted in the inflows and outflows, as they take place. An example, including the formulas to use, is shown below:

	A	B	C	D	E
1					
2		Jan	Feb	Mar	Apr
3	Sales revenue				
4	Debtor payments				
5	**Total revenue**	=B3+B4	=C3+C4	=D3+D4	=E3+E4
6	Expenses				
7	Rent				
8	Stock				
9	Wages				
10	Other expenses				
11	**Total expenses**	=SUM(B7:B10)	=SUM(C7:C10)	=SUM(D7:D10)	=SUM(E7:E10)
12	**Net cash flow**	=B5-B11	=C5-C11	=D5-D11	=E5-E11
13	**Opening balance**		=B14	=C14	=D14
14	**Closing balance**	=B12+B13	=C12+C13	=D12+D13	=E12+E13
15					

As with all forecasts the further we look into the future, the less certainty we have. Because of this, and because businesses operate in a world with changing fashions, changing economic climate, and changing competition, a business' actual cash flow statement can be very different from its cash flow forecast.

Typical reasons for cash flow forecast problems:

Sales are not at the expected level

- Increased/decreased competition
- Economic growth/decline
- Changing spending patterns of consumers/changing fashions
- Government influences, e.g. increased or decreased taxation

Costs increase

- Raw materials cost increases
- Higher than expected level of inflation
- Interest rate increases
- Increased labour costs

Internal factors

- Poor initial predictions of income and expenditure
- Late payment of debtor
- Poor budgeting and lack of control of spending

Making use of a cash flow forecast

All businesses should monitor cash flow and examine any differences between actual and forecast figures. This will allow action to be taken before a real business crisis arises. As experience is gained in managing and monitoring cash flow, business owners and managers will be able to improve the accuracy of their forecasts.

The forecast cash flow is also used to tell us if the business is likely to have enough money coming in to pay all of its expenses. If the forecast cash flow tells us that the business is unlikely to have enough money coming in to cover costs, then the business must arrange to obtain the required amount of money. Perhaps the most popular method of funding a shortage of cash is to borrow from a bank (external) and this borrowing can take the form of loan or an overdraft. However, there are other methods of funding, each of which has an important part to play.

So, what happens when a business needs cash, or liquidity? Up to now we have just referred to cash, but the fact is we are talking about the liquidity of a business. Liquidity is a measure of the availability of working capital. If managers of a business say they have a liquidity or working capital problem, this means that they will have a problem meeting all their immediate or near future expenditure demands. In other words, they do not have enough cash in hand, or do not expect enough cash to be flowing into the business and cannot convert enough assets into cash in the short term to be able to pay all their bills. This is important as businesses do not always (in fact rarely) need to keep enough immediate cash on hand to meet likely future expenditure. What they must do, however, is keep enough ‘liquid assets’ available, in order that cash flow can be effectively managed. So, if there is a predicted cash shortage, what can managers/owners do?

Solutions to a predicted cash shortage

- Increase revenue – this is much easier said than done. A business may try to increase prices, but this is likely to reduce demand. Alternatively, new methods of distribution (places to sell) may be found; but in the short-run this will increase costs and worsen the cash flow situation.

- Reduce costs – wages are often a major cost. Reducing staff will cut costs but will impact on output or service provided. Looking for cheaper suppliers makes sense, but there could be an impact on quality.

- Delay payment – if the business has creditors then delaying payment will improve immediate cash flow. However, the impact could be delayed deliveries, interest charges on debts, as well as demand for cash on delivery for future supplies.

- Extra funding – this could be a new injection of capital from the owner, or perhaps a business loan. However, if cash flow is predicted to be poor, then loans become unlikely. Outside investors could possibly be interested, but are unlikely to act quickly and will want a share of the business. An overdraft is possible if the business has a good account management history with the bank. Finally, using an invoice factoring service can bring creditor payments forward, but there are related costs and provision of the service will depend on the quality of debtors and trading history.

The impact of cash flow forecasts on businesses and its stakeholders

A number of different business stakeholders will be impacted by the cash flow situation:

Business owners and managers can use the cash flow forecast to help them manage the business and make plans for future activities. Cash flow forecasts can be used to help make decisions. They also alert the owners to any possible future problems with cash flow and allow them time to try and solve the problem before it happens. Cash flow forecasts are an essential tool in the financial planning of any business.

Investors in the business – a cash flow forecast can help a potential investor (business angel or venture capitalist) to decide if they wish to invest in the business. Also, they can be used by current investors to give advice to the owner, as they are likely to have experienced similar cash flow problems with other businesses, they may have invested in. In a worst case scenario, they can alert the investor to the likely failure of the business, so that they can look at withdrawing their capital from the business.

Banks – a bank will use the cash flow forecast when an entrepreneur or a current business owner asks for a loan or overdraft. The bank will have a close look at the figures in the cash flow in order to see if the business is viable and likely to be profitable in the long-term. The cash flow forecast should be able to tell a bank if the lender will be able to repay the loan through the monthly repayments.

Customers will be concerned about the cash flow of a business if it has paid the business for products and services before they receive them. Many businesses, such as travel agents, furniture retailers, car manufacturers and catering services, require deposits to order or secure products and services. However, if the business is struggling and cannot fulfil these orders, then the customer may lose their money.

Suppliers – a supplier who is considering giving trade credit to a business may wish to see the cash flow forecast of the business before it agrees to credit terms. If the supplier is concerned that the business is likely to have a cash flow problem, it is unlikely to agree to any trade credit and will only sell or deliver the goods after they have received payment.

Benefits of preparing a cash flow forecast

- An accurate cash flow forecast will allow a business to get a clear idea of how it is performing (although it does not provide an accurate statement of profitability), and how it is likely to perform in the future.
- The forecast allows managers to be able to specify times when the business may need additional funding, such as when cash outflow exceeds inflow.
- In addition, inconsistencies in future performance can be identified and remedied.
- Also, when there is predicted to be a large positive cash flow, businesses can plan ahead on how to use this money – perhaps by investing or paying off debts.

Limitations of using a cash flow forecast

- Drawing up cash flow forecasts takes management time that might be more productively used completing other tasks in the business.
- Cash flow forecasts need to be accurate to have value: this may be especially difficult to achieve if the business has little or no trading history to base the predicted cash flow on.
- The longer the timescale the less accurate the forecast is likely to be.
- Inflation can impact on the accuracy of figures.
- Cash flow forecasts needs to be monitored to have ongoing usefulness.

Budgeting and budgetary control

A budget is a financial plan of action normally covering a specific time period, for example, six months or one year. A budget will describe expected levels of expenditure and revenues of a business. A budget is a financial plan for the future and without such a plan, businesses and individuals, often get into trouble.

The managers of a business need to know when money is coming into the business and when it is going out. Failure to do this can result in cash flow difficulties and, in the worst case scenario, it can lead to insolvency i.e. the inability to pay its creditors. This is the major cause of business failure in Britain and particularly effects small and medium sized businesses, especially in times of recession.

The main causes of cash-flow problems for small businesses are late or failed payments from customers, weak sales and unexpected increases in costs. All of this underlines the importance of setting and monitoring budgets.

Large businesses will prepare budgets on a departmental basis or in relation to business functions. For example, a business will have an overall budget based upon the budgets of departments such as marketing, purchasing and human resources.

Businesses will normally have a master budget for the whole business which can then be broken down into smaller sections e.g. departmental budgets. This breaking down process involves the identification of cost and profit centres within a business.

All budgets should be objective driven. This means that the expected revenues and expenditures of each department will be ultimately based on what the business is trying to achieve. Therefore, if a business has the objective of increasing sales by 20%, then the overall budget and departmental budgets should reflect this.

Budgeting and monitoring of budgets is an ongoing procedure in large businesses. Budgets should be continually evolving to adapt to changes.

Typically, the budgetary process will involve the following procedure:

1. Establish the aims and objectives of the business – what are the profit and market share targets? What is the targeted turnover?

2. Set production, marketing and financial budgets. These are the three main functional budgets and each is dependent upon the objectives of the business.

- Production budget – the objectives of the business have established the output levels required. The production budget attempts to put these output levels into practice. This will involve costs of purchasing raw materials and components, direct labour costs and other costs of production. This is an expenditure only budget.

- Marketing budget – both revenues and costs are combined. Revenues are from sales predicted and costs are from operating the business's marketing strategy.

- Financial budget – this will be based upon the business's cash flow forecast. Will income be able to cover expenditure, or will there be a need to examine methods of raising funds to finance other budgets?

3. Next, the budget should be further broken down. Within each of these budgets, there is the opportunity to break budgets down further, so there may be a training budget, a health and safety budget, a direct selling budget etc.

4. Procedures for monitoring budgets should be established. For example, the monitoring may involve activities such as collecting feedback, checking targets and communicating regularly with budget holders.

5. Any variance from predicted budgets should be examined and reacted to.

6. The experience and knowledge gained from setting one period's budgets should be applied to the setting of the following period's budgets.

A business will have a master budget and other budgets.

A master budget will summarise in pounds-and-pence the various budgets of a business. It factors in all information from other budgets. It is the main budget.

The main other budgets include:

- Revenue budget. This sets out a business' planned sales revenue from selling its products. Important information includes expected level of sales and the likely selling price of the product. This budget will detail in pounds-and-pence terms the revenue streams of a business over a given period of time. It can consider the value (£) or volume (units) of sales revenue. Unit price may be considered, too. The budgeted figures will be based upon past sales revenue, sales forecasting and economic outlook.

- Cost budget. This sets out a business' planned expenditure on labour, raw materials, fuel and other items essential for production. This budget will detail in pounds-and-pence terms the costs of a business over a given period of time. It can consider materials costs, in terms of their total cost, usage or price. It can consider labour costs, in terms of their total cost, rate and efficiency. The budgeted figures will be based upon past costs, inflation levels and economic outlook.

- Cash budget. This budget will detail in pound-and-pence terms the cash position of a business over a given period of time. This is key to its liquidity.

- Capital expenditure budget. This budget will detail in pounds-and-pence the various capital expenditure on equipment, machinery and automations of a business over a given period of time.

A given period of time can be anything from days to weeks, to months, to a year.

Budgetary control

One of the most important aspects of budgeting is to check actual outcomes against predicted outcomes. Outcomes can be either favourable (F) or adverse (A).

For example, if a business predicts monthly sales to total £8 000 and they turn out to be £10 000 then they will have achieved a favourable balance of £2 000. On the other hand, if they predict costs of £3 000 but they actually amounted to £4 000 there would be an adverse balance of £1 000.

As far as a business is concerned, probably the most important variance is the profit variance.
In the above example the profit variance is the difference between the favourable sales variance and the adverse cost variance i.e. + £2 000 - £1 000 = + £1 000.

Budgeting should use the BAV principle, that is:

Budgeted	**Actual**	**Variance**
Amount of income or expenditure liable to be incurred • Plan • Future focus • Before	Amount of income or expenditure actually incurred • Reality • Present focus • After	Amount of difference between budgeted and actual, leading to: • Favourable variance • Adverse variance • Nil variance A case of subtracting the largest figure from the smallest figure. Be it budgeted figure subtracted from actual figure, or vice-versa.

A business achieves budgetary control through conducting variance analysis and, as importantly, responding to adverse variances. Favourable variances do not require a response, more often than not. Nil variances means that the budgeted and actual figures were in harmony, having budgeted 100% accurately.

A business will need to monitor variance in order to understand why they have occurred:

Favourable sales variances might be caused by a number of factors including: an effective bonus scheme for salesmen; a successful advertising campaign; favourable weather; the demise of a competitor etc.

Adverse sales variances might be caused by several factors including: the successful activities of competitors; ineffective advertising; logistical problems that meant that stock did not arrive with the customer on time; bad weather etc.

Favourable cost variances may be caused by such factors as: improved labour productivity; reduced costs of imported components due to a strengthening of Sterling; finding a cheaper supplier etc.

Adverse cost variances might have been caused by several factors including: a strike by dockers; bad weather in the growing region for crops such as sugar or coffee; a devaluation of Sterling; unexpected price rises from suppliers etc.

It should be clear that some of these factors are in the control of the business and they will want to learn the lessons of why the variances arose in order to maximise the causes of the favourable variances in the future and to minimise the causes of the adverse variances. Some factors will be beyond their control, but it may be possible to plan for such eventualities through such devices as buying in advance (stock or currencies) or holding buffer stocks of essential supplies.

Calculation of variances

Calculation of variances is relatively simple. The actual figure must be compared with the budgeted figure and the difference shown as either favourable (F), or adverse (A). These variances should then be totalled, to gain an overall favourable (F) or adverse (A) figure.

Example 1

	Budgeted	**Actual**	**Variance**
Sales revenue	£163 000	£179 000	£16 000 (F)
Raw materials	£73 000	£81 000	£8000 (A)
Labour	£41 000	£43 000	£2000 (A)
Total variance			£6000 (F)

Remember – a favourable variance occurs when expenditure is less than expected or revenues are higher than expected.

A favourable variance exists when the difference between the actual and budgeted figures will result in the business enjoying higher profits than shown in the budget. For example, when: – expenditure is less than expected – revenues are higher than expected.

An adverse variance occurs when the difference between the figures in the budget and the actual figures will lead to the business' profits being lower than planned. For example, when: – expenditure is higher than expected – revenues are lower than expected.

Example 2

A manufacturer undertakes budgetary control. Its master budget reads as follows at the end of a given trading year:

Manufacturer master budget			
	Budgeted £	**Actual £**	**Variance £**
Revenue	2 000 000	2 300 000	300 000 (favourable)
Costs	500 000	600 000	100 000 (adverse)
Cash	200 000	200 000	0 (nil)
Capital expenditure	900 000	800 000	100 000 (favourable)
			300 000 (favourable)

Overall, the manufacturer has a favourable variance of £300 000. Its revenue was favourable by £300 000, meaning that it has actually managed to sell more products that it budgeted on doing. Its costs were adverse by £100 000, perhaps materials costs or labour costs were higher than budgeted due to inflation and overtime payments. While the manufacturer spent £100 000 less on capital expenditure on two packing machines than budgeted. Maybe it was able to negotiate a discount on the price will the supplier of the packaging machines.

Flexible budgeting

A degree of flexibility is advisable in budgeting. Partly because of costs and partly because of the unpredictable nature of demand.

If budgets are inflexible, then changes in the market or other conditions may not be met by appropriate changes in the budget. For example, if a competitor starts a major new advertising
campaign, and the marketing budget does not allow for a response to this, sales are likely to be lost.

A flexible budget adjusts its figures with changes in business activity, either in revenue and or costs. It is not static in that the figures will change throughout the given period of time of the budget and is therefore more realistic than a fixed or static budget that will keep the same figures throughout its given period of time.

Business costs are rarely totally predictable, especially over the long-term. This cost unpredictability is caused by the cost-profit-price relationship. A business attempts to maximise its profits and to do this it may have to raise its prices but ensuring that this does not weaken demand to the point that it reduces its profits.

Also, driven by the profit motive, a business will try to reduce its unit costs by negotiating lower material costs with existing suppliers or securing new cheaper suppliers. A sizeable margin between price and unit cost ensures a sizeable profit. However, a supplier also wants to maximise its profits, and it will alter price and unit cost to do this.

The various costs and their cost behaviours include:

- Fixed costs. These are costs that do not alter regardless of output. In the short-term at least. A business can output 0 units or 100 units and fixed costs do not alter. Rent and insurance are examples of fixed costs. In a flexible budget these may be separated from other costs and kept the same throughout the given period of time

- Variable costs. These are costs that alter in direct proportion to output. Raw materials and fuel are examples of variable costs. Therefore, the more a business produces the more the variable cost. In a flexible budget the business may adjust these costs depending on changes in these types of costs.

- Semi-variable costs. These are costs that have fixed and variable components. Labour and telephone costs are examples of semi-variable costs. This is because both have a set charge combined with additional usage charge. In a flexible budget the business may adjust these costs depending on changes in these types of costs.

- Stepped costs. These are fixed costs that alter in the long-term. They are fixed in the short-term, until such a time or output level where there is an instant stepped increase in the fixed costs. In a flexible budget the business may adjust these costs depending on the given time period and changes in demand and output.

Another reason that flexibility is important in budgeting is demand. As the market force of demand is not predictable – it being at the whim of customer needs and wants. Customer behaviour is very difficult to predict and therefore sales targets can be difficult to calculate. In a flexible budget the business may adjust revenue if there are changes in demand for its products.

Value and limitation of budgeting

Advantages:

- A means of controlling income and expenditure.
- Regulate the spending of money and highlight losses, waste and inefficiency.
- They act as a review and allow time for corrective action to take place.
- They allow delegation without loss of control – subordinates can be set their own targets.
- They help in the co-ordination of a business and improve communication between different sections of the business.
- Budgets provide clear targets to be met and should help employees to focus on costs.
- Can act as a motivator for staff if budget is met**.**

Limitations:

- They can be time consuming for managers in small businesses; especially for those who are not particularly numerate.
- Some personnel can resent having to meet budget targets that they have had no part in constructing. Poor motivation and missed targets can result.
- If the actual figures are very different from the budgeted ones the budget can lose its significance.
- The budget must not be too inflexible as business opportunities might be missed.
- Poorly constructed budgets can lead to poor decision making

Costing

Costing is the proposed or estimated cost of producing or selling, it is concerned with establishing a cost for a business activity at given units of output. Costing is an important part of creating budgets and carrying out budget variances.

Accurate costing reduces business waste and increases profitability. Costing allows the business to consider the costs of its actions before they start them to see if a profit can be made. Businesses can use different costing methods to help them work out the costs they will incur by carrying out the business activity.

The main costing methods include:

- Contribution or marginal costing – costing based on producing one additional unit of output. It involves considering the contribution per unit of output or contribution per order. It involves subtracting the selling price from variable cost. Fixed costs are not factored into contribution or marginal costing.

- Standard costing. Costing based on having a standard cost for unit of output. A business will estimate the standard cost for a unit of output. The standard cost is then compared with the actual cost, a form of variance control. If the actual costs are greater than the standard costs then the business will receive lower profits and if the actual costs are lower than the standard costs then profits will be higher. Standard costing can be used to create accurate budgets.

- Absorption costing. Costing based on absorbing the direct and indirect costs into each unit of output. All the costs of the business are taken into consideration. Meaning that all overheads are suitably absorbed into the unit of output, alongside direct costs. Absorption costing is the only costing method that considers fixed costs and variable cost fully. It is also called full costing.

Cost-based methods to set prices

The main cost-based pricing methods include:

- Cost-plus pricing. A business will calculate the average unit cost, then add a mark-up for profit. The higher the mark-up the higher the profit per unit.

- Contribution pricing. A business will calculate the direct costs of the given unit of output, then add a contribution towards its indirect costs and profit.

- Absorption cost pricing. A business will calculate the price of the product by including all the variable costs and a proportion of all the fixed costs.

Marginal costing contribution analysis

A business can use marginal costing contribution analysis to make decisions on special orders.

Occasionally, businesses may receive orders for their products that differ in terms of the profile of their regular orders. This difference is often based on price paid, the quantity ordered or the lead time. These special orders can be one-off or they could be a new buyer establishing a relationship with the supplier. The decision to accept a special order depends upon the potential immediate and future quantitative and qualitative benefits that result from the order.

A special order can involve:

- Selling the same product lower than the normal sales price
- Selling a modified product at a higher price.

Such an order will not be as profitable as normal orders, yet it could be profitable enough to accept and may lead to future orders that could become more profitable.

When deciding on whether or not to accept a special order the business will need to calculate the contribution per order. The formula below is used:

Contribution per order = (Selling price per unit – Variable cost per unit) * Output

The first stage in examining the value and impact of a special order is to use a quantitative measure, the contribution (which is the difference between revenue per unit and variable cost per unit). This difference is known as contribution because it is the amount each item sold contributes toward paying the other costs of the business i.e., the fixed costs, or to profits when fixed costs are already covered.

If a shop owner buys a tin of beans for 26p and sells it for 40p the contribution of that tin of beans is 40p − 26p = 14p. This 14p is left over to help pay for the fixed costs such as rent, rates etc. Once fixed costs are covered (paid) then any additional contribution is profit.

Total contribution is contribution per item × number of items sold

So if a clothing business receives an order for 10 000 shirts at £7.00 per shirt and variable costs per shirt are £3.00 then the total contribution is found by:

£7.00-£3.00 = £4 per unit contribution. £4 × 10 000 = £40 000 total contribution

Example

R and J Ltd is a manufacturer of headboards for beds. The business produces 3 000 headboards per month, which are sold to independent retailers for £50, who then sell these on to customers for £90.

R and J Ltd achieve revenue of £150 000 per month (3 000 x £50).

The costs include fixed costs of £70 000 per month and variable costs of £20 per headboard (3 000 x £20). Taking all this information into account, a profit of £20 000 is achieved.

	£
Revenue	150 000
Fixed costs	70 000
Variable costs	60 000
Total costs	130 000
Profit	20 000

The business has the capacity to produce 4 000 headboards a month, but demand from its current customers is just 3 000. Therefore, a spare capacity of 1 000 headboards per month exists.

The business is now approached by a large retailer with an order for 1 000 headboards. The large retailer offers £35 per headboard, with the intention of retailing for £60.

Should R and J Ltd. accept the special order for 1 000 based on the lower offer made?

The new contribution per headboard would be £35 - £20 (variable cost) x 1 000 (the number ordered), so additional total contribution of £15 000.

This means for the month of the order; monthly profits would increase to £35 000 (£20 000 + £15 000). Therefore, on purely financial terms, the special order should be accepted because of the positive contribution and the subsequent increase in profits.

	£	
Original revenue	150 000	
Special order revenue	35 000	
Total revenue	185 000	
Fixed costs	70 000	
Variable costs (3 000 x £20) (1 000 x £20)	 60 000 20 000	
Total variable costs	80 000	
Total costs	150 000	
Profit	35 000	

However, there are a number of other factors that have to be considered before accepting a special order; these will include qualitative (non-financial) factors:

- **Capacity** – has the business the spare capacity or is this the best way to utilise the spare capacity?
- **Labour demands** – would the special order be completed in normal hours or would extra hours have to be paid to workers?
- **Future orders** – could the special order lead to a more regular order?
- **Existing customers** – will the special order upset existing customers who pay a higher price?
- **Product adjustment** – would the special order require a product slightly different to the regular product?

This could involve changing the production process, using different materials and training workers.

Possible positives of accepting order	Possible negatives of accepting order
Further orders may follow. Some businesses will accept an unprofitable special order if there is a possibility that it will result in a profitable regular and long-term order.	Working at near or at full capacity can put pressure on quality. If the business is already operating at full capacity how can it cope with existing customers in addition to the special order?
Spare capacity is used, increasing return on capital invested.	What if existing customers discover the discounted price offered to the new customer? Will they demand the same? They may become resentful and could look for a new supplier.
The new order may give access to new markets and new opportunities e.g. is it from overseas leading to new export markets or is it in a different market?	Will the new customer demand even lower prices in the future and will there be a requirement to prioritise the new order over existing customers? This could have an adverse effect on loyal and long-term customers.
Increasing production can have HRM benefits, such as increased wages for workers and payment of bonuses.	The new customer may undercut existing customers when selling the finished product. This could impact on their sales, which could then impact on future orders.
Also, it can be useful to keep workers busy if the normal orders are not sufficient due to poor economic conditions. Special orders can help keep workers in their jobs.	

A business can use marginal costing contribution to solve a make or buy dilemma - is it cheaper to make something in-house or buy from a supplier. It is not always more profitable to make something in-house. If the contribution of making the product is so small that it does not make a sufficient contribution to the fixed cost, then it may be better if the business looked to buy in the product. Another business (which may have economies of scale) may be able to sell the same or a similar product to the business for a lower price. The business will also have to consider the quality, could an external supplier provide the product to the same quality as if it was made within the business, or maybe the external supplier could provide the product at the same cost but at a higher quality.

A business can also use marginal costing contribution to close down unprofitable business sites or products. If the contribution of a manufacturing or retail site, or a particular product is small or even negative then it would make sense to close those sites down and stop selling the product if they are unprofitable, although care should be taken that these are only unprofitable in the short-term. Their contribution may improve if efficiencies can be carried out, or if they are victim to external factors that are likely to improve in the long-term.

AC3.3 Assess the relevance of investment appraisal to organisational decision-making

Businesses will often invest money in order to meet their objectives - these may include sales growth, increase profitability, expansion to new markets, relocation or training its existing workforce. Whatever the reason, a business will at some time have to spend money in an attempt to take the business forward. A business may also need to invest just to keep up with its competitors, they may have no choice but to invest otherwise they may well fall behind and start losing customers.

Businesses invest in capital goods – goods used in the direct or indirect production of other goods e.g. lorries, computers, new machinery and buildings. They can also invest in research and development and aspects of human resource management such as financial motivational methods and quality improvement programmes.

The investment made can be for the replacement of worn-out goods or induced new investment in order to expand. Investment can also arise from the availability of new technology.

In summary, common motives for investing include:

- Setting up an organisation
- Replacement of worn-out equipment or machinery
- Technological upgrade to increase productivity and output level, or both
- Become more capital intensive rather than labour intensive
- Remain competitive in market
- Diversify into new products and new markets

Large amounts of money are often invested in the hope that this will give a profitable return on the investment, however, there is risk with investment as there is no certainty that the investment will result in increased profits and could even result in a reduction of future revenue. For this reason, businesses will carry our research and gather data to help them decide on what investment is the most likely to be the most profitable and how long it will take to get the initial money invested back.

Unfortunately, the success of any investment is far from certain. An investment may pay off or, worryingly, it may not pay off. To minimise risks of making a bad investment, a business should thoroughly appraise any investment before committing any financial capital. More often than not, a business will have multiple investments to invest and limited financial capital to invest. Therefore, a business may need to choose between which investments to sanction, something that the investment appraisal methods help to decide.

Investment appraisal methods

The main investment appraisal methods include:

- Payback period
- Accounting rate of return (ARR)
- Discounted cash flow (DCF) in terms of present value (NPV) and internal rate of return (IRR)

Payback Period

Payback appraises the amount of time it takes for an investment to payback its initial financial outlay.

For example, if a project costs £20 000 and the net cash flows generated by the project are £10 000 each year, the project costs will be covered after two years. So, the payback period is 2 years.

The shorter amount of time it takes an investment to payback its initial financial outlay in years and months the better. Longer term investments are riskier by their very nature, because risk increases with the passing of time. Given that the future is riskier than the present.

Example

A business is considering two capital investments. Both of which will speed up production output.

Investment A will cost £90 000 and Investment B will cost £110 000. The expected Net Cash Flows (NCFs) for each are shown below.

Years	Investment A NCFs Cost £90 000	Investment B NCFs Cost £110 000
1	£20 000	£10 000
2	£30 000	£20 000
3	£40 000	£40 000
4	£20 000	£60 000
5	£20 000	£50 000

With payback, the investment that is selected is the one that repays the initial outlay first. To calculate the payback period for each investment: the cumulative cash flow figures are added to the table, as shown below:

Years	Investment A NCFs Cost £90 000	Cumulative cash flow	Investment B NCFs Cost £110 000	Cumulative cash flow
1	£20 000	£20 000	£10 000	£10 000
2	£30 000	£50 000	£20 000	£30 000
3	£40 000	£90 000	£40 000	£70 000
4	£20 000	£110 000	£60 000	£130 000
5	£20 000	£130 000	£50 000	£180 000

For Investment A the £90 000 cost equals the cumulative cash flow at the end of Year 3, so the project has a payback period of 3 years.

It can happen though, as is the case with Investment B, that none of the cumulative totals exactly equals the initial cost of the investment. The payback period is therefore not an exact number of years, but instead years and months. If this occurs use the following method to find out how many months of the year it takes to fully pay the cost of investment:

Find the 2 years that payback falls between.

In this instance, payback occurs between years 3 and 4 as £110 000 falls between £70 000 and
£130 000.

Take the total or cumulative cash flow figure for the earlier year of these 2 years and take it away from the initial cost of the investment. The figure remaining is the balance of the initial investment that is paid back during this final year.

The balance of the initial investment outstanding at the start of year is:
£110 000 - £70 000 = £40 000

Find the monthly cash flow for the final year - divide cash flow for the year by 12.

The monthly flow of cash during the year is £60 000 divided by 12 = £5 000

When we have this monthly cash flow figure, we divide it into the balance remaining to be paid back during the year.

£40 000 divided by monthly NCF of £5 000 = 8 months

Add your answer i.e. the months that it takes to payback the balance remaining at the start of the year, to the earlier year of the 2 years that payback falls between, and you have your payback period in years and months.

3 years plus the 8 months, so the total payback time is 3 years 8 months

Therefore, the payback period for Investment A is 3 years and the payback period for Investment B is 3 years and 8 months. Investment A would be chosen as it has the shortest payback time. However, looking at the total (cumulative) cash flow at the end of the 5 years then Investment B gives the higher return. This is one drawback with this method of investment appraisal.

The value of the payback period investment method include:

- Simple to use
- Easy to calculate
- Effective to use when technology is changing at a rapid rate as the cost of investment can be recovered as quickly as possible
- Helps with managing cash flow and cash balance

The limitations of the payback period investment method include:

- Ignores flows of cash over the lifetime of the project
- Ignores total profitability, the focus is just on the speed to which the initial outlay is repaid

Accounting rate of return (ARR)

The accounting rate of return method appraises the average net return every year with the cost of the investment. The ARR is expressed as a percentage allowing for a straightforward comparison between different investments. Naturally, the investment that has the highest average rate of return is chosen. Higher returns being preferable to lower returns.

Example

Using the same investment options as the payback period method:

Years	Investment A NCF Cost £90 000	Cumulative cash flow	Investment B NCF Cost £110 000	Cumulative cash flow
1	£20 000	£20 000	£10 000	£10 000
2	£30 000	£50 000	£20 000	£30 000
3	£40 000	£90 000	£40 000	£70 000
4	£20 000	£110 000	£60 000	£130 000
5	£20 000	£130 000	£50 000	£180 000

The three stages below demonstrate how to calculate the ARR:

Stage 1

Calculate the total cumulative cash flow.

Investment A = £130 000
Investment B = £180 000

Take away the initial cost of the investment from net cash flow total.

Investment A = £130 000 - £90 000 = £40 000
Investment B = £180 000 - £110 000 = £70 000

Stage 2

Calculate the average profit per annum by dividing the figures in stage 1 by the number of years the project runs for.

Investment A £40 000/ 5 years = £8 000
Investment B £ 70 000/ 5 years = £14 000

Stage 3

Divide the average net cash flow per annum by the initial cost of the project, and multiply by 100. The ARR % is then arrived at.

Use the following formula:

$$\frac{\text{Average profit per annum}}{\text{Initial investment cost}} \times 100 = \text{ARR (\%)}$$

Investment A = (£8 000 / £90 000) x 100 = 8.89%

Investment B = (£14 000 / £110 000) x 100 = 12.73%

Investment B would be chosen as it has the higher ARR.

In addition to using the ARR to compare capital investment options, ARR can also be used to compare with keeping the money in the bank and comparing against interest rates. In the example above it is unlikely that the interest rate offered by a bank would be anywhere near 12.73%, yet if the ARR was around 1- 4% then it might be wiser to keep the money in the bank.

The value of the ARR investment method include:

- Shows the profitability of the investment
- Includes all the investment's cash flows
- Easy to compare different investments
- Allows comparison with costs of borrowing for investment

The limitations of the ARR investment method include:

- Ignores the timing of the cash flow
- Does not allow for effects of inflation on values of future cash flows.

Discounted cash flow (DCF)

The discounted cash flow method of investment appraisal takes into account the time value of money. The reality that the value of money changes with the passing of time. A '£' today is unlikely to be worth '£' in the future.

Net present value (NPV)

The discounted cash flow method can be used to calculate the net present value of alternative investments. The NPV is the value of future money if you had it now (i.e., takes into account inflation and the potential for earning interest on investment capital or cost of finance on raising investment capital). In other words, money in the future is worth less than the same amount today.

Example

Using the same investment options as the payback period method and ARR:

Years	Investment A NCF Cost £90 000	Cumulative cash flow	Investment B NCF Cost £110 000	Cumulative cash flow
1	£20 000	£20 000	£10 000	£10 000
2	£30 000	£50 000	£20 000	£30 000
3	£40 000	£90 000	£40 000	£70 000
4	£20 000	£110 000	£60 000	£130 000
5	£20 000	£130 000	£50 000	£180 000

A discount factor is given (which is based on bank interest rates). These are normally given in tables to show how much future values will be discounted to give its present value. The further into the future the earnings go the lower the discount factor will be. The table below shows the discount factors over 5 years at a rate of discount of 5%.

Discount Factor 5%	
Year 1	0.952
Year 2	0.907
Year 3	0.864
Year 4	0.823
Year 5	0.784

To apply the discount factors to the two possible investment we need to use the net cash flows (NCF):

Years	Investment A NCFs Cost £90 000	Investment B NCFs Cost £110 000
1	£20 000	£10 000
2	£30 000	£20 000
3	£40 000	£40 000
4	£20 000	£60 000
5	£20 000	£50 000

Multiply the cash flow for each year by the discount factor for that year:

Years	Investment A NCF Cost £90 000	Present Value	Investment B NCF Cost £110 000	Present Value	Discount Factor
1	£20 000	£19 040	£10 000	£9 520	0.952
2	£30 000	£27 210	£20 000	£18 140	0.907
3	£40 000	£34 560	£40 000	£34 560	0.864
4	£20 000	£16 460	£60 000	£49 380	0.823
5	£20 000	£15 680	£50 000	£39 200	0.784

Total the discounted cash flows in order to calculate the total present value of the cash flow.

Calculate the net present value by subtracting the initial investment:

Years	Investment A NCF Cost £90 000	Present Value	Investment B NCF Cost £110 000	Present Value	Discount Factor
1	£20 000	£19 040	£10 000	£9 520	0.952
2	£30 000	£27 210	£20 000	£18 140	0.907
3	£40 000	£34 560	£40 000	£34 560	0.864
4	£20 000	£16 460	£60 000	£49 380	0.823
5	£20 000	£15 680	£50 000	£39 200	0.784
Total present value		£112 950		£150 800	
Net present value		£22 950		£40 800	

Investment B would be chosen as the net present value is higher.

In addition to the net present value, we can also calculate the NPV as a percentage of the initial cost:

Investment A is £22 950/90 000 x 100 = 25.5%
Investment B is £40 800/110 000 x100 = 37.09%

It is also possible to calculate the NPV per year as a percentage of the initial cost.

Calculate the NPV (minus the initial cost) per year, which is the NPV divided by the number of years:

Investment A £22 950 / 5 years = £4 590
Investment B £40 800 / 5 years = £8 160

Then to calculate the NPV per year as a percentage of the initial cost:

Investment A is (£4 590 / £90 000) x 100 = 5.1%
Investment B is (£8 160 / £110 000) x 100 = 7.41%

In the example above both investments result in a positive NPV. However, it is possible to end up with a negative NPV - this means that the investment option is unprofitable which means that a business could get a better return by saving the money in a savings account. A business should only invest in a project if it gives a positive NPV.

The value of the discounted cash flow investment method include:

- Allows for future earnings to be adjusted to present values
- Easy to compare different investments
- Allows for impact of inflation on value of future cash flows
- Discounts can be changed to take into account changes in the economic and financial climate
- Allows for effect of risk on estimated future cash flows

Limitations of the discounted cash flow investment method include:

- It is difficult to calculate
- Discount factors could be incorrect which makes the NPV inaccurate
- Difficult to set discount factors far into the future, the longer into the future we go the less reliable the discount factor

Internal rate of return (IRR)

Like NPV, internal rate of return uses the discounted cash flow to appraise an investment. However, when using IRR, the NPV is set equal to zero. IRR can be used when looking at a single investment and the possible returns from the investment. For example, an IRR of 12% indicates that the investment will generate an average annual rate of return of 12% over the life of the investment.

There are two important considerations with IRR, namely: IRR % compared to cost of capital and IRR % compared to market rate of interest.

The IRR % should be higher than the cost of capital, expressed as a %. Otherwise, a business will pay more for capital than the investment returns. The investment should only be selected if the cost of the capital is lower than the IRR.

Also, The IRR % should be higher than the market rate of interest expressed as a %. This being the borrowing and savings rate. An investment should be accepted if the IRR % is higher than the market rate of interest %. While an investment should be declined if the IRR % is lower than the market rate of interest %.

Example

A business is considering a capital investment of £250 000 and the cost of the capital for this investment is 13%. The business has calculated the expected cash flows from this investment:

The business has selected rates of 10% and 20% to use for the discount rates.

Year	Cash flow	10% Discount Factor (R1)	Present Value		20% Discount Factor (R2)	Present Value
0	(250 000)	1.000	(250 000)		1.000	(250 000)
1	50 000	0.909	45 450		0.833	41 650
2	100 000	0.826	82 600		0.694	69 400
3	200 000	0.751	150 200		0.579	115 800
	Net Present Value		28 250			(23 150)

We know need to calculate the IRR:

R1 + NPV1 x ((R2-R1) % /(NPV1-NPV2))

10% + 28 250 x ((20-10) % / (28 250 – (-23150))

10% + ((28 250 x 10%) / (28 250 +23 150))

10% + (2825) / (51400)

10% + 5.5%

IRR = 15.5%

The business should carry out the investment as the IRR is greater than the cost of the investment (13%) and higher than the likely market rate of interest.

The value of internal rate of return include:

- Percentage rates are easy to compare between investments, making it possible to compare investments of different sizes
- Factors in time value of money

The Limitations of internal rate of return include:

- Complicated, as it involves trial-and-error
- Sometimes impossible to calculate if cash-flows move from positive to negative from year to year.
- A decision based on IRR may not lead to the best decision where multiple investment options are being considered
- An investment with the highest IRR may not generate the highest net present value and the best overall return of investment

Factors influencing choice

The factors influencing the choice of investment appraisal methods include:

- Time
- Available information, including its accuracy. That is, cost, cash flows and discount factors
- Financial literacy of those undertaking the investment appraisal
- Size of investment
- Business size and scale

It is often appropriate to use more than one method of investment appraisal to judge the better option for investment. Deciding on what option to take might not be straight forward. One option may have a shorter payback or better ARR, whilst another option might have a higher DCF. In these circumstances further points need to be considered, such as:

- Is the investment high-tech? If so, a short payback may be required since technology is fast evolving.
- Is short term cash flow important? This may rule in or out short payback times.
- Is inflation likely to be stable? Will the NPV figures be reliable?
- How much risk is involved?

Qualitative factors affecting investment appraisal decisions

Although investment appraisal forces a complete financial analysis of any proposed investment, there are other factors that also need to be considered before a decision to invest is made. These include:

- Impact on staff. Can staff handle the changes brought about by investment? Can staff be trained to use new technology? Will there be redundancies as a result of the investment?
- Impact on existing products. Will managers concentrate on new products/investment to the detriment of existing output?
- Does the investment match the strategy and objectives of the business?
- The state of the economy. Is the economy booming? Or is there a recession, which is likely to reduce demand, on the way?
- Action of competitors. Are they investing/ improving their products?
- Does the investment have any ethical considerations? Would the investment damage the environment?
- Is there sufficient funding available to invest in the project? Would the investment put the business at risk by reducing cash flow or increasing borrowing?
- Availability of new technology. New technology is one of the main factors that encourage further investment.
- Confidence of managers. Optimistic managers are more likely to invest.

Marketing route

AC3.1 Assess the relevance of marketing models to organisational decision-making

Marketing is concerned with markets, which are complex and ever changing. All businesses must make market decisions to enact and fulfil their marketing strategies.

Marketing models

A collection of marketing models can help a business make better market decisions and, as importantly, adopt effective marketing strategies. These include:

- Porter's generic market strategies
- Porter's Five Forces framework
- The Ansoff matrix
- The BCG (Boston) matrix
- Market positioning

Porter's generic market strategies

This marketing model provides ways for a business to compete in the marketplace. Porter suggested four generic business strategies a business could follow in order to be successful and gain a competitive advantage. A business needs to create a competitive position in the market or markets it competes in, it can do this by choosing one of the generic strategies shown in the diagram below. The strategies relate to two factors:

- The degree of the scope of business activity – in terms of narrow scope versus broad scope
- The degree to which a business differentiates its products

	Competitive advantage Lower costs	**Competitive advantage Differentiation**
Broad Target market	Cost leadership	Differentiation leadership
Narrow target market	Cost focus	Differentiation focus

Competitive advantage - Lower costs

- Cost leadership

  A business targets a mass market and attempts to gain competitive advantage by producing products at the lowest cost possible and lower than its competitors, so the business becomes the lowest cost provider to the total market. Such a business cannot allow itself to be beaten on price, otherwise it will lose market share. In order to do this the business will have to control costs very strictly, have efficient large-scale production and continually look to control and reduce costs throughout its organisation. A cost leadership strategy can be achieved by:
  - Increasing profits by reducing costs and charging industry average prices
  - Producing high volumes and benefiting from various economies of scale.
  - Keeping direct and indirect costs as low as possible through standardised products and basic products.
  - Increasing market share by charging lower than average industry prices and making a profit by reducing costs
  - Strict supply controls through either backward integration (a business controls the supply of goods and services it needs by buying the business that supplies them, or by going into the same business as the supply business) or strong links with suppliers.
  - Cost focus

    A business targets a narrow market or a niche market, a segment or group of customers in a particular geographical area or with similar incomes or lifestyles. Its strategy would be tailored to these groups and not to the mass market. The cost is kept to a minimum (same as cost leadership) but just for a focused smaller market.

Competitive advantage - Differentiation

- Differentiation leadership

  A business targets a mass market and attempts to gain competitive advantage by offering products that are unique in that market. The products are more attractive to customers than the competitors' products, allowing the business to charge higher, or premium, prices. It is important to have a strong brand loyalty to achieve this. Various basis of differentiation may include product features and functionality, exclusivity, customer service, brand image, free delivery, or after-sales service. In order to succeed with this strategy a business needs to commit to research and development and innovation and be able to offer high quality products.

- Differentiation focus

  A business focuses on differentiation in a particular market segment offering a unique product, resulting in strong brand loyalty. The business would select segments within the mass market and then tailor its product and strategy to only that segment, ignoring the rest of the market.

The value of Porter's generic market strategies model include:

- Market strategies are relatively easy to comprehend and implement
- No single best market strategy exists, it depends on market conditions and competencies of a business
- The marketing model can be applied to a business of any scale or scope
- Prevents a business getting 'stuck in middle' by trying to follow two generic market strategies and not concentrating on what the business does well and who its customers are

The limitations of Porter's generic marketing strategies model include:

- Lacks flexibility as it offers one-size fits all market strategies, some small-scale businesses cannot simply afford to follow a cost leadership or a differentiation market strategy
- Like any marketing model, it simplifies complex market realities
- As a generic marketing strategy, it may not provide competitive advantage in the long-term as competitors can copy a successful strategy

Porter's Five Forces framework

Porter outlined five forces or factors which determine the profitability of an industry. He argued that the aim of competitive strategy is to cope with and ideally change those forces in favour of the business. His framework suggests that businesses can, under certain circumstances, exert an influence on the markets in which they operate.

Where the collective strength of those five forces is favourable, a business will be able to earn above average rates of return on capital. Where the collective strength of the five forces is unfavourable, a business will be locked into low or wildly fluctuating returns.

Porter's five forces:

- Barriers to entry
- Buyer power
- Supplier power
- Threat of substitutes
- Degree of competition

Porter suggested the idea that the interaction and influence of these five forces will determine the behaviour of businesses and the likely levels of profitability within a particular industry. Owners and managers can use Porter's Five Forces framework to better understand the industry in which the business operates and to properly consider the external influences on its behaviour.

Understanding of how Porter's Five Forces framework affect any business will demonstrate to owners and managers that there are limits on what can be achieved and therefore how to set realistic objectives. Once they have this understanding, managers will be able to devise appropriate strategies to maximise profitability.

Barriers to entry

These are factors that prevent new competition entering the market. If barriers to entry are high, then monopoly (high) profits can occur. However, when they are low then normal profits can be earned. If new businesses can enter the market easily then the existing businesses will have a challenge to keep their profits high. New businesses will be attracted to the market if profits are high but if barriers of entry exist, or existing businesses attempt to create barriers to entry, then this can reduce or stop new businesses entering the market. Examples of barriers to entry include:

- Cost advantages of existing businesses, be they gained through economics of scale or effective relationships with suppliers
- Access to factors of production, such as financial capital, land or labour
- High capital/investment requirements
- Strong brand identity of existing business's products and high levels of advertising to maintain brand identity
- Access to distribution networks
- Predictable behaviour of existing businesses
- Access to technologies used in the industry
- Licensing requirements

Buyer power

Buyer power concerns the ability of the customers within an industry to affect/determine the price they pay. The higher the buyer power, the lower the potential for the business to set the price themselves. If buyer power is low, then the business is able to set the price high and therefore achieve more profit. Examples of factors that determine buyer power include:

- The amount of bargaining leverage the buyer has, a buyer has more leverage if they buy a large proportion of the organisation's products/services
- Whether the customer buys in bulk, the larger the order the greater the level of negotiated discount
- Whether the buyer has information on costs/availability of alternative suppliers
- Product USP and exclusivity
- Brand identity and loyalty of the product bought - if the product is branded, the buyer has less control over price paid, they may even be told the price that they can sell the product at
- Price sensitivity of the product.
- If forward vertical integration exists

Supplier power

If suppliers have high levels of power, they are able to push up prices for raw materials, components or finished goods, so lowering profit margins for the business which buy from suppliers. On the other hand, with lower levels of supplier power, the situation is reversed. The buyer may be able to force prices paid for raw materials, components and finished goods down, which results in higher profit margins for the businesses. Examples of factors that determine supplier power include:

- The number of alternative suppliers, which in turn determines the degree of competition amongst suppliers
- Importance of volume of orders to supplier
- If inputs make up a large proportion of costs
- If inputs, raw materials or components say, help create differentiation of products made
- The costs of switching to a new supplier
- Availability of alternative (substitute) inputs
- If backward vertical integration exists

Threat or risk of substitute products or services

This concerns the availability of alternative products that customers could switch to buying. The more substitute products available the weaker the position of the business, and vice-versa. Examples of factors that determine the likelihood of availability of substitute products include:

- Rate of change of technology - the faster the rate of change of technology, the more quickly substitutes are likely to occur
- Availability of capital for investment - the capability of potential producers of substitutes likely to be able to raise the capital required for research and development and production runs
- Switching costs for customers
- Level of substitution effect – how close is the substitute, how easily does it replace the original product or service
- Price-performance trade-off of substitutes – how effective are the substitutes in cost and performance
- The existence of patents and licenses to operate in the market

Degree of competition in the market

The level of competition in a market can in theory shift between a monopoly to perfect competition and the other market structures in-between. As a rule, the lower the level of competition, the higher the profit margins and vice-versa. The extent of the rivalry between competing businesses within a market will determine the prices set for products and the profit that is made. Examples of factors that determine the number of competitors in a market include:

- The level of collusion in the market - businesses within a market can act together to control price and share out the market between them, this prevents markets from functioning effectively
- Maturity of the market - a market may be stable with established brands and market leaders, alternatively, a market may be immature, with new entrants being able to join
- Industry concentration - the market may be a monopoly or an oligopoly with a few businesses dominating the market, or more like perfect competition with many businesses each having small market shares
- Product differentiation in the market - a market may be characterised by virtually identical products, bordering on being mere commodities, or alternatively a market may be characterised by differentiated products
- Strength of brands in the market - some customers are loyal to certain brands, other customers can be disloyal and be easily tempted to switch brands
- The existence of patents and licenses to operate in the market - patents can give businesses monopolies of production for specific products, plus licences offered by governments or market regulators will limit the numbers of competitors
- If horizontal integration exists

The value of Porter's Five Forces framework model include:

- Helps with decisions on whether to enter or exit a market, expand in the market or what competitive advantage to follow
- Provides an insight into markets and the power a business holds
- Encourages businesses to carry out detailed competitor research to aid strategy
- Simplifies complex market realities

The limitations of Porter's Five Forces framework include:

- Overly general framework
- The analysis can be biased, depending on who conducts the analysis
- No analysis of own business, just the industry
- Analysis gets out-of-date quickly, as the industry evolves

The Ansoff matrix

The Ansoff matrix outlines the options open to businesses if they wish to grow, with a view to increase profitability and revenue. These options indicate how to manage the development of the product range by looking at options according to products and markets. The matrix can help businesses determine their strategy.

The Ansoff matrix is a strategic tool used by businesses to achieve growth.

The Ansoff matrix considers whether the marketing strategy is targeted at existing customers or new customers and if existing products should be used or as an alternative, new products should be developed.

The matrix below shows that a business wishing to grow has four options (strategies). A business can use any number of these options depending on its products and product range.

	Existing products	**New products**
Existing markets	Market penetration	Product development
New markets	Market development	Diversification

The Ansoff matrix suggests that there are four different growth strategies that a business may adopt to achieve growth:

- **Market penetration** – concentrating on sales of existing products to existing markets

  This growth strategy focuses on existing products for existing markets. This involves the business aiming to increase sales within its present market. To be successful at market penetration a business must be aware of what has made the product a success in the first place.

  There are several market penetration strategies open to businesses, including:

- Attracting customers who have not yet become regular users, but are occasional users by increasing brand loyalty. This can be a successful strategy where there is fast market growth and new consumers are just 'testing the water'.

- Attacking competitors' sales. This will often happen in mature markets, where increased sales for a business will have to be captured from competitors. The strategy in this case will be an adjustment of the marketing mix, altering one or more of the elements such as price or promotion techniques. Tesco has been successful in this type of strategy over the last 10 years, taking customers from all its supermarket rivals. Internet service providers are continually trying to win customers from competitors through pricing strategies and promotional activities.

- Increasing consumption amongst existing users perhaps by reducing the price or offering promotions. This can work very well with services, consumption goods and consumer durables. For example, Sky offers packages or bundles to get existing customers to increase their monthly subscription and food producers offer convenience packs, lunch size, maxi size etc. In consumer durable markets, the introduction of new and rapidly changing technologies can encourage further purchases. This is now clearly seen in the mobile phone market, where a model only remains on the market for as little as six months.

- **Market development** – finding and developing new markets for existing products

  If the business takes the option of market development, the objective will be to find new markets for the businesses' existing products. There are two broad market development strategies. These are:

- Identifying users in different markets with similar needs to existing customers (the market could be in a different country, but generally concentrates on a new geographical market, such as Europe or North America). This strategy can be risky as different counties have different tastes and needs – the product may have to be adapted. Also new distribution channels may have to be used.

- Identifying new customers who would use a product in a different way. For example, using Lucozade as a sports drink rather than something to have next to your bed when you have flu or measles. Repackaging and resizing the product may open up a new market. For example, a business selling food to the hotel or restaurant market may start selling to consumers by repacking the product in small quantities. Looking at different distribution channels may also introduce new customers to the product. A good example of this is how high street retailers started selling online and now achieve a high proportion of their sales via the internet.

- **Product development** – developing new products for existing markets

  In the case of product development, the business will attempt to increase profitability and growth by introducing new products targeted at the existing customer base. This involves creation and development of new products that are similar to those that the business already sells to existing customers. An example is with Mars producing ice cream and drinks in addition to their chocolate range. Another example is with Tesco and Marks and Spencer offering financial services as well as places to shop.
  Product development strategies require businesses to innovate and look at new ways of extending the product life cycle of their existing products. Some businesses such as Apple, Dyson, Cadbury and Samsung are recognised as innovative companies who are continually developing their products.

- **Diversification** – developing new products and new markets

  Developing new products for new markets involves changes to both a business's product and market. Diversification may be attempted if a business sees a new opportunity and has investment funds available. Alternatively, a business may be forced into this type of action because of pressures in existing markets or on existing product ranges, such as sales declining in existing markets or for certain products.

Diversification carries the greatest level of risk (compared with market penetration, which is low risk and the other two options considered as medium risk strategies) because it involves changes in both the market and the product. Virgin's move into train travel has not been as successful as was initially hoped, and the criticisms of the service provided may have some effect on the overall strength of the brand. However, Virgin also diversified into Virgin Money, which has been more successful.

Diversification can also spread risk for a business as it allows a business to reduce its reliance on existing markets and products. If sales are falling for existing products or in existing markets, then a successful launch and growth of a new product in a new market can help to maintain the overall performance of the business.

The value of The Ansoff matrix model include:

- It forces a business to focus on products and markets and consider various options for growth
- Factors in risk-reward into the decision making
- It is straightforward

The limitations of The Ansoff matrix include:

- Accurate predictions are difficult and difficult to assess the impact of strategies
- Does not consider the cost and benefit in quantifiable terms
- No considerations of external competitors and their actions

BCG (Boston) matrix

The Boston Matrix was devised by the Boston Consultancy Group in the 1960s and it allows the analysis of a business's products by dividing the products into four categories. The categories the products are placed in depend on their market share and the level of growth in the market and also the cash flow of its products. In the diagram below we see the structure of the Boston Matrix. This structure can be used as a guide to product mix management.

Market growth: Fast	**Question mark** (Products with high market growth but a low market share)	**Star** (Products with high market growth and a high market share)
Market growth: Slow	**Dog** (Products with low market growth and a low market share)	**Cash cow** (Products with low market growth but a high market share)
	Low — Market share — High	

Question marks (Problem children)

This is one of the worst situations for professional marketing people. They have a product in a fast-growing market, but the products are not selling. They are being beaten by the competition. They are failing, but it is likely to be worth doing something about it. After all, it is not good business for businesses to have products that fail to capture market share in markets that are growing in importance, especially when the new market may eventually replace an existing market. For products which are question marks, a product relaunch may solve the problem, or a basic redesign may increase sales. In the mid-1980s jeans were out of fashion but the market for teenage clothes was growing fast. Levis relaunched their jeans, led by advertising for 501s, which had never been a style of jean worn for fashion. Within a few months sales had increased by a factor of 10 – the product became a star. The TV adverts used pop songs as soundtracks, starting a trend which is still popular in marketing 30 years later. In contrast, there have been many competitors to the iPad since launch and most have ended up as question marks, heavily discounted and eventually withdrawn.

Stars

The market may be somewhat immature, with new customers being attracted to the marketplace and new competitors being tempted by potential profits and market share. Competition is high – businesses are fighting for a share of potentially huge profits. Stars are products that have a high market share in a fast growing market. Star products have high levels of revenue, but also have high levels of costs. Advertising and marketing expenditure is high. Brands have to be established and hopefully the products will develop into cash cows. The classic example of a recent product that was a star and has become a cash cow is the Apple iPad.

Cash cows

Cash cows are very profitable products and expenditure on such things as advertising is relatively low. Customers know and understand the product, and brand value has been established. It is also likely that development costs have already been recouped, increasing profitability further. Examples of such products would be the Ford Focus, Kellogg's Corn Flakes and Cadbury's Dairy Milk.

Dogs

Dogs have low market share in a mature market. It is not generally worth spending money on redeveloping, redesigning or advertising the products as it is unlikely to be recouped in increased revenue. Even so, dogs may still be marginally profitable. Problems with dogs exist as they may take up management time, tie up assets and give very low returns.

The issues surrounding so-called 'dog' products can be quite complex. Some businesses still sell hand push carpet sweepers. You do not see them advertised on TV, competing for market share against the Dyson, but they still produce profits for niche businesses. The development costs of this type of product were paid back long ago, marketing is virtually non-existent and they are profitable enough to ensure that manufacture continues. Currently sales of alcohol through public houses are falling and there is a shrinking market. Businesses with a portfolio of bars and pubs sell off the less successful ones (often small pubs with no food facilities) and focus on large city centre bars and gastropubs where profits are higher.

It can be worth holding on to dogs especially if they provide synergies – for example, a company may boast that it provides a complete range of products, which can help attract customers who may occasionally wish to buy the dog. A business may also subsidise loss-making products in order to appear ethical – thereby winning customers and enhancing their reputation. If a business has dogs that are unproductive or do not provide synergies for the whole organisation, one solution is to sell off the dogs to small specialist niche businesses and use the money raised to invest in developing new products.

Businesses must ensure that they use the Boston Matrix in the way intended:

- to judge how to manage individual products and the product range, given market conditions
- to recognise the importance of using successful, profitable products to fund the development of the stars and cash cows of the future
- to see whether they have products in fast growing and potentially very profitable market sectors.

The Boston Matrix can help businesses analyse whether they have the portfolio that they want and whether it matches the objectives of the organisation. From analysing their product portfolio using the Boston Matrix, managers can then establish their marketing strategy in order to obtain the desired portfolio.

Most businesses would like to have a product mix or portfolio which has no problem children, many cash cows and plenty of stars that look like developing into cash cows. However, in the real world there are very few businesses that are that successful. Even Microsoft, the world's largest software company, is struggling in some sectors including tablets and mobile phones.

The value of the BCG matrix model include:

- Easy to understand
- It provides a way of managing individual products
- Encourages a business to strive for a balanced product portfolio
- Can identify business opportunities and possible weaknesses
- Very useful for large business with a wide product portfolio

The limitation of the BCG matrix include:

- Focuses on market share, growth rate and cashflow, ignores other business factors such as HR and costs
- Can be difficult to obtain current data on market share and market growth
- Oversimplifies the complex and dynamic business environment

Market positioning

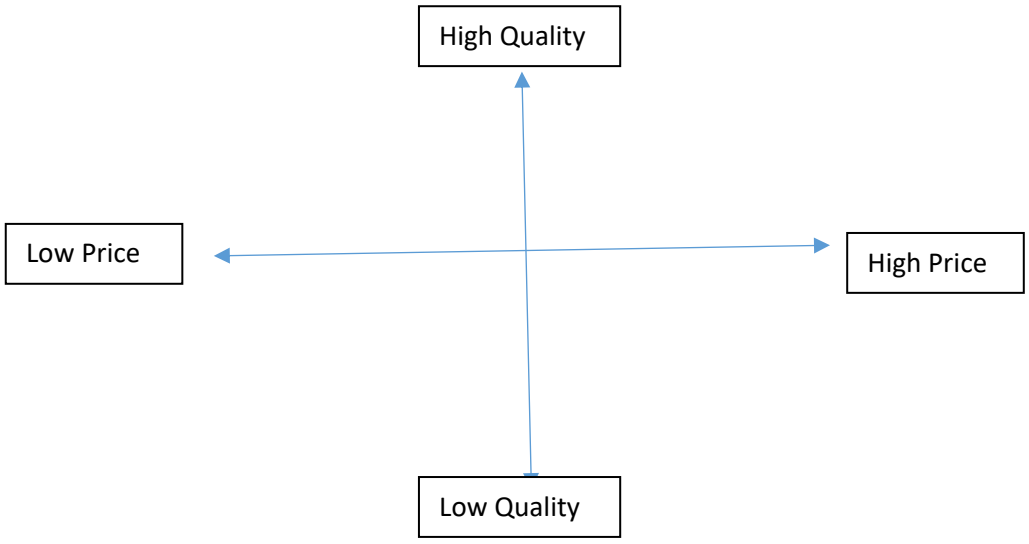
Market positioning is how a businesses' products are perceived by its customers, compared to that of its competitors.

All marketing efforts are attached to the market position. A business has to decide on which customers will buy its products through identifying suitable market segments and then targeting those potential customers. A business will then offer products to those customers and will attempt to make its products different from the competition through product differentiation and creating brands and USP. The marketing mix plays a part also in market positioning, used to help create demand from customers and how they perceive the business and its products.

Market positioning is all about the customer and what they feel about a product (and its price, promotion and place) in comparison to the competing products. Products can be categorised by customers as:

Low quality	–	High quality
Low price	–	High price
Necessity	–	Luxury
Unhealthy	–	Healthy
Low tech	–	High tech
Simple use	–	Complex use

A two-dimensional positioning map can be used to place the perceived customer view of products in a market diagrammatically, for example:



This map allows a business to identify how its products are positioned in comparison to its competitors and could identify opportunities in the market.

A business can identify its current market position and then, if it wishes, can adapt its products or its marketing to reposition its products to gain more positive customer perceptions which could lead to growth and higher levels of profit. However, there is a risk as this may incur high costs and may not lead to a successfully repositioned product.

The value of market positioning model include:

- Straightforward to use
- Consistent with Porter's generic market strategies
- Helps to analyse competitors' products
- Can spot gaps in the market
- Perception is important in the purchase decision of customers, both in terms of emotions and rational thinking.

The limitations of marketing positioning model include:

- Customer product perception and product purchases are not always linked
- Difficult to predict success of market positioning
- A gap in the market doesn't mean there is demand for a product
- Based on market research which may be unreliable

AC3.2 Assess the relevance of sales forecasting to organisational decision-making

Sales forecasting is the act of predicting future sales using information and opinion.

It would not be hard to be a successful businessperson if you had a crystal ball and could look into the future. If you knew which products were going to sell well and which were going to sell badly it would be easy to make a lot of money. Unfortunately, things are never that simple. One can never be one hundred percent sure about the future. However, wise businesspeople will do their best to find out what is likely to happen so that they can position their business in the best way possible to take advantage of any opportunities that may arise. For most businesses the best way to anticipate the future is to use sales forecasting techniques.

Sales forecasting is the art or science of predicting future demand by anticipating what consumers are likely to do in a given set of circumstances. Businesses might ask 'what will demand be if real incomes increase by 10%?' or 'how much is demand likely to fall if a competitor launches a copycat product?' Above all, sales forecasting techniques allow businesses to predict sales, and once a business has what it believes is an accurate estimate of future sales it can then predict HRM needs, finance needs, estimate the quantity and cost of purchases of raw materials as well as determining production levels.

Using past experience or past business data to forecast future sales is called extrapolation.

Sales forecasting considers both sales volume and sales value. It is based on historic trends and various market research methods – including customer information, expert opinion and salesforce opinion.

Sales forecasting is vital to a business. There are a number of reasons for a business to undertake sales forecasting:

- To consider its likely future sales revenue
- To assess its likely future resourcing requirements relative to its sales, including labour, financial capital, machinery and equipment and raw materials
- To manage its cash-flow, by ensuring its cash-balance is sufficiently positive for its operational purposes
- To ensure effective stock management, stockholding levels being a pivotal consideration for most businesses
- To set and adjust sales targets for its salesforce, thus driving sales efforts
- To consider whether the market is expanding or contracting

As a rule, the longer the time duration of a sales forecast the less reliable it will prove. A three month sales forecast is liable to be more accurate than a three year sales forecast. As much more can change in three years than three months.

A business is likely to experience a difference between its forecast sales and actual sales. Such difference may be favourable or adverse for a business and may be caused by:

- Competitor marketing tactics and strategies
- Inaccuracy caused by human or computer error, optimism or pessimism of the sales forecaster, or using inaccurate data to base the sales forecast upon
- Economic booms and busts, as per the expansionary peak and contracting troughs of a given economic cycle
- Public relations triumphs or disasters by the business affecting sales
- Changes in population size or composition, influencing demand
- Technological advancements
- Various legislation, such as legislation affecting trading hours and restricting advertising to particular customers

Sales forecasting methods can be categorised into quantitative and qualitative techniques.

Quantitative - used when there is historical data available and rely heavily on data and are objective:
- Time series analysis
- Use of market research data

Qualitative - used when historical data is not available to carry out quantitative methods. Qualitative methods involve the use of opinions to predict future events and are subjective:
- Delphi technique
- Brainstorming
- Intuition
- Expert opinion

Time series analysis

Time series analysis uses evidence from past sales records to predict future sales patterns. A business can look at its sales over the last few years and try to work out what is happening. The figures may reveal an encouraging upward trend or, to the counter, a worrying downward trend. In reality, past sales are likely to have fluctuated both up and down over a given period of time.

There are several components of time-series analysis that can be used:

- Seasonal analysis – certain products have considerable seasonal variation from season to season. Ice cream sells better in a warmer season than colder seasons. Chocolate sales surge in the run up to special calendar events – such as Mother's Day, St Valentine's Day, Easter and Christmas.
- Trend analysis – this focuses on long-term data, which has been collected over a number of years. The objective is to determine the general trend of sales - rising, falling or stagnant.

- Cycle analysis – as with trend analysis, long-term figures are used but now the objective is to examine the relationship between demand levels and economic activity. Certain products have stronger demand during different phases of the economic cycle. Luxury wristwatches and new cars will be demanded more by consumers during economic booms, while adult training courses and soup will be demanded more by consumers during recessions or depressions.

- Random factor analysis – sometimes unusual or extreme sales figures occur. For example, a doubling of the sales of ice creams in two-week period could be explained by an unexpected heatwave, rather than an effective advertising campaign. Random factor analysis therefore attempts to provide explanations for unusual or abnormal sales activity.

Moving average

To identify a trend from past sales figures it is useful to make use of a moving average, which will even out any major fluctuations in the sales data. The examples below illustrate how this works.

Example 1

Below are consecutive monthly sales figures for a factory. Sales are in £000s.

Jan 2020	**Feb 2020**	**Mar 2020**	**Apr 2020**	**May 2020**	**Jun 2020**	**Jul 2020**	**Aug 2020**	**Sep 2020**	**Oct 2020**
130	135	147	250	290	360	428	410	300	260
Nov 2020	**Dec 2020**	**Jan 2021**	**Feb 2021**	**Mar 2021**	**Apr 2021**	**May 2021**	**Jun 2021**	**Jul 2021**	**Aug 2021**
150	120	125	130	135	230	260	350	400	390

These figures show that there is much variation in the number of sales depending on the time of year. To establish a trend in the number of sales: a three-point moving average (in this case a three-month moving average) can be calculated.

To calculate the three-month moving average, the three adjacent figures for each month should be taken and subsequently divided by three. So, for Feb 2020:

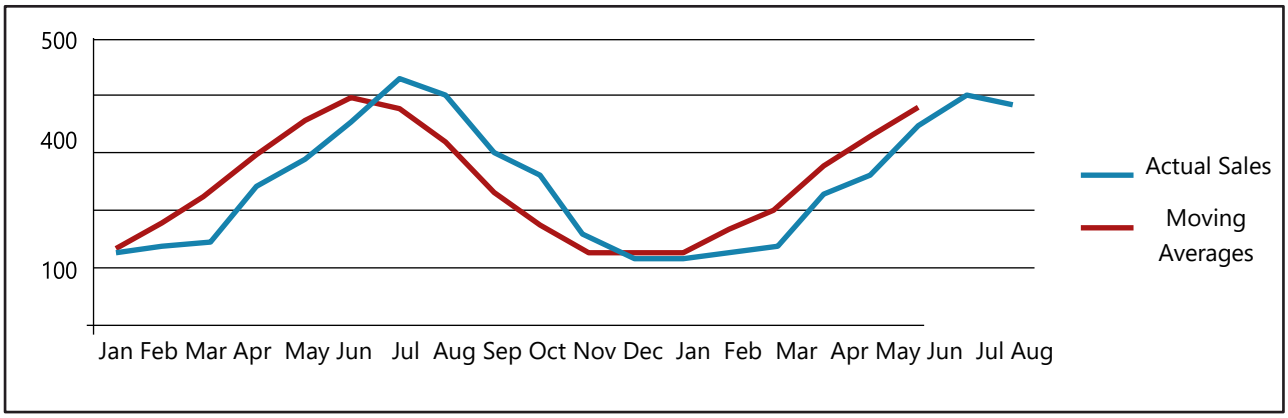
Jan 2020	**Feb 2020**	**Mar 2020**
130	135	147
	137.33	

The total for the three months is 412, which is divided by 3 to give 137.33. This becomes the moving average figure for February 2020 (which is the mid-point of the three months).

Carried through for the rest of the sales the moving average figures are as follows:

Jan 2020	**Feb 2020**	**Mar 2020**	**Apr 2020**	**May 2020**	**Jun 2020**	**Jul 2020**	**Aug 2020**	**Sep 2020**	**Oct 2020**
130	135	147	250	290	360	428	410	300	260
	137.33	177.33	229.00	300.00	359.33	399.33	379.33	323.33	236.67
Nov 2020	**Dec 2020**	**Jan 2021**	**Feb 2021**	**Mar 2021**	**Apr 2021**	**May 2021**	**Jun 2021**	**Jul 2021**	**Aug 2021**
150	120	125	130	135	230	260	350	400	390
176.67	131.67	125.00	130.00	165.00	208.33	280.00	336.67	380.00	

If we plot all the data for all of the moving averages using the data in the table above, we can see the figures in blue are actual sales and the figures in red are the moving average.



The effect of the calculation of a 3-month moving average is to smooth out seasonal variations. This smoothing will help us plot or predict trends, especially if we have more than one year's figures.

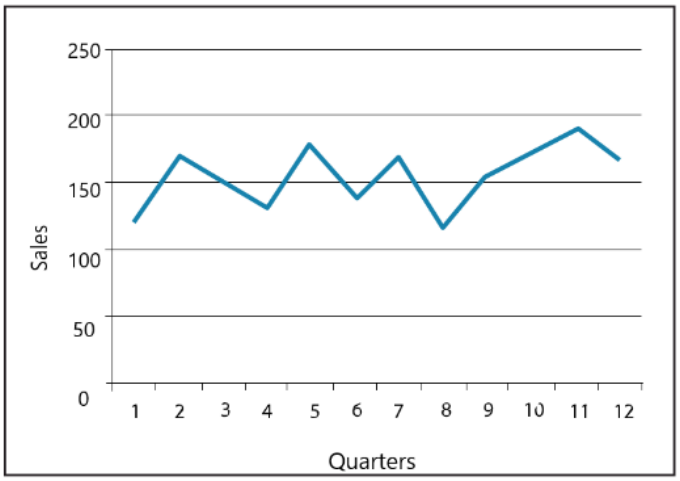
Example 2

The data below shows the quarterly sales figures of an engineering company, W. Peters Ltd. over the last three years. The figures are in £000s.

A quarter is a period of three months. The first quarter of a year is comprised of the months January, February and March whilst the second quarter is comprised of the months April, May and June and so on. In order to make the data easier to understand, the quarters for the last three years have been labelled 1 to 12, with 1 being year one, quarter one and 2 being year one quarter 2, etc.

Year 1				Year 2				Year 3			
Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1	2	3	4	5	6	7	8	9	10	11	12
122	170	152	131	179	140	170	119	155	173	191	167

It can be seen from these figures that there are quite large fluctuations in sales from quarter to quarter. The results above are plotted in the following graph. The graph shows quite sharp peaks and troughs in the sales levels.



Now let us calculate the three-point moving average (in this example, per three quarters). To start with we will calculate the average of the first three quarters (1 to 3), then move on to the second quarter and calculate the average of the next three quarters (2 to 4) and so on.

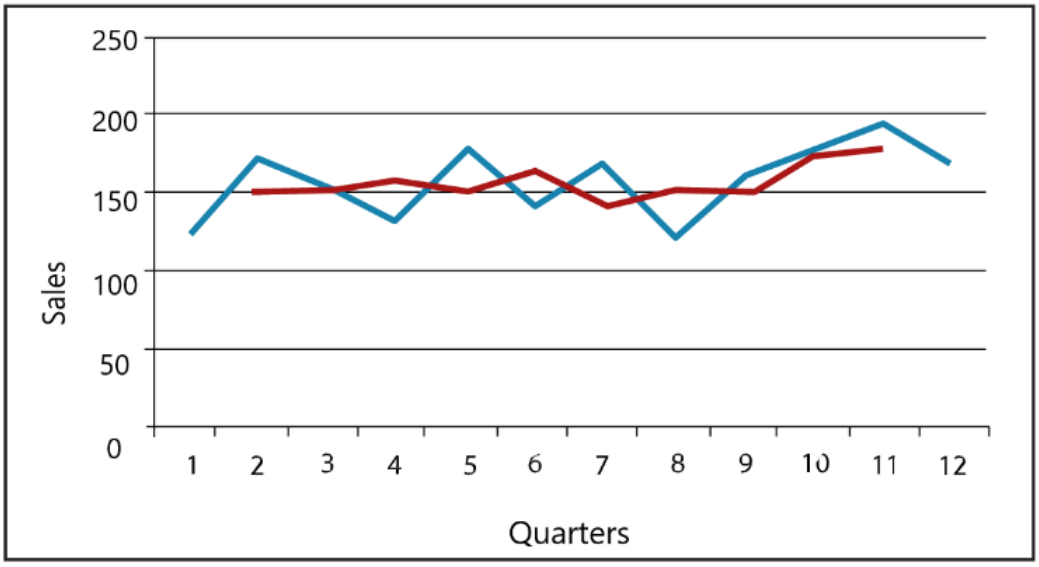
For the first three quarters the calculation is (122+170+152)/3 = 148
For the next three quarters the calculation is (170+152+131)/3 = 151

This process is repeated for all of the quarters up to Year 3, Q4. The results are given in the table below. Notice that the moving average is placed in the middle i.e. the average of quarters 1 to 3 is placed in quarter 2.

Year 1				**Year 2**				**Year 3**			
Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1	2	3	4	5	6	7	8	9	10	11	12
122	170	152	131	179	140	170	119	155	173	191	167
	148	**151**	**154**	**150**	**163**	**143**	**148**	**149**	**173**	**177**	

Also notice that there are no results for the first and last quarters, since these periods are not mid-points for the data given.

The results of the original data (in blue) and the three-point moving average (in red) are plotted in the following graph below. It can be seen that the moving average is much smoother than the raw data.



The value of time-series analysis for a business includes:

- Helps with general forward planning
- Helps financial planning, including cash-flow management
- Production planning to determine the right level of supplies are ordered and the production process is efficient to meet either higher levels or lower levels of production
- Human resource planning, getting the right number and type of staff in the jobs that are needed, this may mean recruiting more staff, retaining staff or making staff redundant
- It is useful in identifying seasonal variations
- Reduces the risk of unexpected surprises that could affect business performance

The limitations of time-series analysis includes:

- It is not always easy to predict the future
- Historical data is not always a good indication of what might happen in the future
- Even complicated sales forecasting methods can get it wrong and, what is more, no forecast can be correct 100% of the time
- Less useful for long-term forecasts
- As with all forecasting methods, success is not guaranteed

Market research methods

Another method of quantitative sales forecasting is using market research data.

Surveys of consumers' intentions is a method of forecasting that makes predictions by asking people directly what they intend to do in the future. There are a number of large market research companies that are continually gathering vast quantities of information and make money by selling this research to businesses (Mintel is an example). They may ask consumers questions such as 'Do you intend to purchase a new car in the next 12 months, 36 months or 60 months?' or 'Do you plan to go on holiday in Spain in the next three years?' The results of these surveys allow businesses to predict sales patterns and plan for the future in terms of staffing and production levels.

There are a number of types of market research data that can be used in sales forecasting. These include:

- Consumer panels – consumer panels are used to test new products and improve existing products. They involve consumers consuming the prototype product or finished product. They are done in-person or, increasingly, remotely. Choosing the right panel member is pivotal to the success of the consumer panel, they should be representative to the target customer of an organisation. Panel members are paid for their time, either in terms of money or gift vouchers. Some consumer panels are one-offs, others are continuous.

- Focus groups – these are similar to consumer panels, in some respects. Yet the difference is that facilitating discussion is the main purpose of a focus group, be it on a topic, idea or product. Responses and behaviours of focus group participants are analysed by the chair-moderator of the focus group. Focus group participants are paid for their time. Focus groups can be one-offs or a continuous series.

- Mystery shoppers – traditionally, there were people paid to pretend to be consumers and visit the retail premises or hospitality premises of an organisation, or that of their direct competitors'. Amongst other things, mystery shoppers considered prices, layout, merchandising, cleanliness and customer service. Nowadays, mystery shopping has been extended to online shopping, via trialling a business's website. The identity of the mystery shopper is never disclosed to a business, although sometimes a business is given a time window when a mystery shopper may pay a visit. Mystery shoppers receive payment for their time and efforts.

- Observation – this involves observing consumer behaviour and actions. It can involve an individual shadowing a participant round a business's premises and taking notes. Or it can involve getting a participant to wear a video and audio headset and reviewing their behaviour and actions as they visit a business premises. Either way, it involves observing what consumers do. It may involve follow up questioning, to clarify reasons for behaviour and actions observed.

- Questionnaire – this involves asking respondents to complete a survey containing a number of structured questions to collect attitude and behaviour information. This can be done interpersonally via the telephone, online or via the post. A mixture of open and closed questions works best for truly understanding customer needs-wants.

- Interviews – this involves an interviewer asking an interviewee questions. An interview may consist of pre-determined questions or the interviewer may be given freedom to ask any question they want, or a mixture of both approaches may be adopted. Again, this can be done interpersonally via the telephone, online or via the post.

- Test marketing – this involves testing a product before it is properly launched onto the market. Samples of a product will be tried in certain geographic regions, which are designed to represent the whole market. Feedback is collected and acted upon, usually pinpointing areas of the new product to be refined to better satisfy the needs-wants of customers and ensure a successful product launch, or whether forecasts are likely to be achieved. Sale forecasts may be adjusted to take account of test marketing data.

- Social media analytics – social media are websites and applications which enable sharing ideas, information and images over computer networks. Examples of popular social media networks include: Facebook, Twitter, YouTube, LinkedIn, Instagram and Snapchat. Increasingly, businesses use such social media platforms to interact with their customers. By extension, social media analytics is a way of measuring such interactions to better understand customers. It considers exposure, influence, engagement plus conversion and action. Each social media network will have its social media analytics software.

Qualitative forecasting methods are used when historical data is not available to carry out quantitative methods. Qualitative methods involve the use of opinions to predict future events and are subjective.

The main expert opinion market research methods include:

The Delphi method – a group of market experts are assembled at a cost to a business. They are requested to make predictions of a given aspect of the market using their expertise, they are then asked to revise their opinions continually in light of other opinions until eventually a consensus is reached.

The Delphi method begins with the initial development of a questionnaire focusing on the problem or issue in question. A panel of experts is selected, and then the questionnaire is sent to each of them. Each participant answers the questionnaire independently and returns it. Responses to the questionnaire are summarised before a further questionnaire is developed, based on findings of the first questionnaire, and sent to the same panel of experts.

The members of the expert panel independently rate and prioritise ideas included in the second questionnaire. This enables the group of experts to arrive at a consensus forecast on the subject being discussed.
The Delphi method is based on the principle that forecasts from a structured group of experts are more accurate than those from individuals or unstructured groups.
Advantages of using the Delphi method:

- It is flexible enough to be used in a variety of situations and can be applied to a range of complex problems

- Provides a structured way for a group of people to make decisions

- Participants have time to think through their ideas leading to a better quality of response

- The Delphi method creates a record of the expert group's responses and ideas which can be used when needed

Weaknesses of using the Delphi method:

- The method will more than likely require a substantial period of time to complete as the process is time consuming to coordinate and manage
- It assumes that experts are willing to come to a consensus and allow their opinions to be altered by the views of other experts
- Monetary payments to the experts may lead to bias in the results of the study

Business consultant – a business may commission a business consultant for their opinion on market fads and trends, usually in the form of a report. There is a huge variety of expert opinion available on individual markets, and more general business issues which may also be considered by businesses trying to forecast the future.
There are consultants who specialise in the motor industry, in food retailing, in internet marketing and so on. There are different types of economists such as motor industry economists, energy economists, and political economists, all of whom have opinions on future demand and expenditure patterns in the UK and the global markets.

Some businesses, affected by seasonal variations in sales, consult specialists on long term weather forecasts in an attempt to predict sales of weather-dependent products. Other experts to be consulted can include distributors, wholesalers, suppliers and trade organisations.

Experts are useful for gaining specialised insights into likely future patterns and trends but should not be used on a 'standalone basis'. Panels of experts are more reliable than consulting individual experts. The opinion of experts should also be combined with information gathered from other sources.

Experts also make mistakes and fail to forecast future trends correctly, particularly in the long term.
The quality of business consultants is variable. Better business consultants cost more money.

Salesforce opinion - a salesforce consists of those persons that contribute to the selling of a product, be it in-person, via telemarketing or online via website chat panes. They are the eyes-and-ears of a business, given their direct interaction with customers in the market. The main salesforce opinions sources include:

- Existing account – these are salespersons that deal with existing customer accounts.
- New account – these are the salespersons that seek to obtain new customer accounts. It is more difficult and expensive to acquire a new customer rather than retain an existing customer.
- Sales support – these are not actual salesforce, rather they provide sales support such as customer service.
- Agents – these are not employees of a business. They are commissioned to sell on behalf of an organisation.

Sales teams within businesses interact closely with customers. Sales staff might notice any developing trends, and they have the experience to spot market changes and shifts in customer preferences and attitudes. This direct sales information can be collected by management requesting statistical predictions of future sales, and by encouraging the upward flow of information through their organisation.

The value of market research methods and expert opinions include:

- Provide a variety of stakeholder perspectives regarding sales - customers, market experts and salesforce
- The data is not historical or out-of-date, possibly more accurate
- Allows the capture of new views and ideas

The limitations of market research methods and expert opinions include:

- Cost – can be very expensive to conduct primary research and employ experts
- Time and effort – can take a long time to gain the results, the market may have moved on
- Need to appoint a market research agency to conduct some of methods, given that not all businesses have the in-house marketing expertise
- Can give inaccurate or incomplete and biased information

Sampling

It is seldom possible for a business to conduct other market research on an entire population. Above all, this is because of cost, time and logistical constraints. For this reason, a business has no choice but to sample. A sample is proportion of the entire population that is used to study views and behaviours.

The population is the entire group that the research is based on, but the sample is the specific group that will be used to collect data from and represent the population.

A sample is a group of respondents who are selected to be representative of the views of the target market as a whole. The size of the sample used is very important as it needs to be large enough to make the data statistically valid. When a business decides upon an appropriate market size for a survey it must bear in mind two issues:

- If the sample size is very large, the research will take a long time and may prove to be very expensive
- If the sample size is too small, then there is a greater chance that random factors will make the results inaccurate

Any sample needs to be representative of the target population. The sample size will influence how representative a sample is. The larger the sample the more representative target population and the smaller the sample the less representative of the target population.

Bias is something that may cause data within a sample to be weighted towards one side. Such statistical bias occurs when a sample has an overweighting towards one subgroup – for example, too many teenagers between the ages of 16–19 within a research sample. To avoid bias and collect data that is statistically valid, sampling methods are used to determine the market research sample. With questionnaires (as with all forms of research) it is important to gather data from a sample that reflects the whole population.

Sampling methods

Probability sampling and non-probability sampling represent the two main types of sampling.

Probability sampling involves random sampling - every item or person has an equal chance of being in the sample.

Non-probability involves no-random sampling - certain people in the population have a greater chance of being in the sample than others, the sample is chosen by the researcher as they represent those whose views and behaviours matter to the researcher. This sampling method depends heavily on the expertise of the researchers.

The various sampling methods include:

Probability sampling

- Random sampling – here the sample is chosen at random. Every member of the population has equal chance of being chosen in the sample. Typically, a computer programme is used to pick the sample at random.

- Systematic sampling – here the random sample is reduced for manageability. For example, every 10th or 100th person on the electoral register, or customers are listed alphabetically and starting at number 5 every 10th customer is selected. Because of this, systematic sampling is less random by its nature.

- Stratified sampling – here the sample is divided into sub populations or strata in relation to knowledge about the population. This allows for every subgroup to be represented. A random sample or systematic sample is then selected from each strata. Possible strata may be gender, income levels or age. For example, A business has 600 female customers and 400 male customers. To ensure that the sample reflects the gender balance the population is sorted into two strata based on gender. Then a random sampling on each group, selecting 60 women and 40 men, which gives a representative sample of 100 people.

- Cluster sampling – here the entire population is divided into clusters or subgroups. Each cluster will have similar characteristics to the whole sample. A random sample or systematic sample is then taken from sampling entire subgroups. For example, a business operates in 15 different countries, the business does not have the resources to carry out market research in each country, so it decides to use random sampling in 5 of the countries, these countries are the clusters.

  Cluster sampling is an example of multi-stage sampling. This is used to carry out market research from large populations and a sample selected from the population using progressively smaller groups of respondents at each stage. For example, a business selects geographical regions of its UK market and randomly selects some of these regions as cluster sample, then within each geographical region cluster it selects a systematic smaller sub group of cities and towns and then finally (third stage) it randomly selects a number of customers from each of these towns.

The value of probability sampling methods include:

- Allows for a representative sample of the population
- It can be cost effective
- Less bias into the sample, random sampling especially
- Relatively easy to carry out
- Sample results more statistically reliable

The limitations of probability sampling include:

- Danger that not all the of the population is represented
- Can be a large margin of error
- Time consuming to undertake

Non-probability sampling

- Quota sampling - the population is divided into groups sharing similar characteristics. Then the proportion of these groups are established, some groups will have a higher proportion as they are more important/representative of the total population. Quota sampling is similar to stratified sampling, however, a big difference is that whereas stratified sampling uses random sampling to select the individuals within the sample, Quota uses convenience sampling to select those individuals.

- Convenience sampling - this involves including any sample who is willing to be in the sample. Convenience takes precedence over anything else. The researcher will select the sample as they are easy/convenient to include. The sample may or may not represent the population.

The value of non-probability sampling include:

- Less costly to undertake
- Easy availability of the sample
- Useful when time and budgets are limited
- Less time consuming to undertake

The limitations of non-probability sampling include:

- Success depends on the skill of the market researcher
- The sample may not be representative of what is needed
- Bias can be introduced into the sample.

Probability sampling	Non-probability sampling
The sample is selected at random	The selection of the sample is based on the judgement of the researcher
Everyone in the population has an equal chance of getting selected	The sample does not accurately represent the population
Useful when the population is large and diverse	Useful when the population has similar characteristics
Reduces sampling bias	Can increase sampling bias
Finding the right respondents is not easy	Finding respondents is easy

AC3.3 Assess the relevance of digital marketing to organisational decision-making

Digital marketing concerns the use of digital technology and digital processes in customer interactions by businesses. It is about marketers using technology to connect and communicate with customers, and vice-versa. Digital marketing concerns itself with the 5Cs:

- Connecting – reaching out to customers
- Content and communication – content should inform, educate or entertain. It can take the form of text, images, video and audio. A business communicates through its content.
- Communities – building online communities
- Commerce – buying and selling

Growth and importance

Over the years, digital marketing has experienced sustained, rapid growth. Such growth had been driven by a number of factors, including:

- The development and penetration of the internet, leading to ever greater interconnectivity
- A reduction in the price of digital technology hardware – such as mobile phones, tablets and IAs (ie, intelligent assistants) – making it affordable to the majority not just the minority
- Ongoing technology innovations, product and process
- The growth in digital natives with the passing of time - digital natives are those born when digital technology was commonplace in society, so they are comfortable in using it because it is the norm for them to do so
- The increasing 365/24/7 nature of modern society, meaning that businesses and customers are always active
- The 'cash rich-time poor' nature of modern society
- The rise of the prosumer - that is, consumers are increasingly concerned in the production of products and services, changing the traditional business and consumer relationship

The importance of digital marketing to customers and businesses is beyond doubt. Realistically, no business can successfully compete in the marketplace without using some aspects of digital marketing these days.

Range and features

Due to its link and relationship with technology, digital marketing is constantly evolving. Websites are central to most of digital marketing. The current range and features of digital marketing consists of:

- SEO – search engine optimisation is about optimising a website to ensure it places well when a search engine – such as Google, Yahoo! or Bing – searches for it. A website is a collection of webpages. Ideally a website aims to rank number 1 on page 1 of the search engine results pages, since few people will click on the 2 or 3 ranked websites of the search engine results pages – while even fewer still will venture to click to page 2 of the search engine results pages. SEO concerns making a websites' webpages readable to search engines, signposting key topics related to content and choosing the right key words and key word phrases for search engine website searches. Search engine index websites on its search engine results pages. This is based on a range of ranking factors and algorithms. Precise details about search engine ranking factors and algorithms are kept confidential by the various search engines. Yet key words and key word phrases, freshness of content, website speed, website traffic volumes, website click through volumes, and mobile and tablet friendliness of websites are key considerations, amongst many others.

- SEM – search engine marketing is about improving a website's placing and visibility through using paid strategies. Businesses pay search engine providers for their adverts to appear when a search for the associated product or service is accrued out by the customer. A form of paid inclusion, denoted by the word 'Ad' visible in the search engine results page. Adverts or ads are sold via an auction system, where a business can bid for key words and key word phrases with reference to search engine results pages. All things being equal, a business that pays the most get the higher website placing on a search engine's search engine results pages – preferably the number 1 ranking.

- Online display – here online advertisements or ads are displayed on search engine portals or third-party websites, which are broadly related to the product offering of a business in some way. Note that Google, the most popular search engine, chooses not to clutter its search engine portal with online displays. But other search engines, such as Yahoo!, have some online displays. The online displays may be combination of text, image, animations or videos. The various online displays include:

    - Static images – these appear around the website content
    - Floating banner – these float across the website
    - Wallpaper – these change the background of a website, by filling the whole web page
    - Pop-ups – these appear in front of website content, they materialise by popping-up
    - Flash – these are moving ads that flash content to the website visitor
    - Video – these are short videos, they auto play or wait to be played by the website visitor

Online displays of advertisements or ads are either purchased by third party directly or, increasingly, via an auction system.

- PPC – PPC stands for pay-per-click. It is applicable to both SEM and online display. In terms of SEM: a business bids for key words and key word phrases and it pays for it only when someone clicks through to its website following a search using a search engine. In terms of online display, an advertisement or ad is shown to a target audience on a search engine portal or third-party website and a business is charged only if they click on the ad.

- Social media marketing – social media comes in a variety of forms. Including social networks such as Facebook and Instagram, blogs and microblogs such as Twitter, podcasts and wikis. Social media marketing is the use of social media to increase awareness of a business and its products and services, engage in customer conversations and drive traffic to its website. Social media users create and share content. It is possible to use certain social media networks to advertise.

- Email – here email is used to market products and services. Most businesses have a customer database or an opt-in list for marketing. Increasingly, images and videos are contained in emails. Newsletters and surveys are often sent via email. The most effective emails are personalised, rather than generalised emails. They will also contain a call-to-action within the email, in the form of commenting, connecting via social media, subscribing or downloading free content. A standard desktop email system can be used, but it is better to use a specialist email marketing system – since testing can be used on aspects of the content to test out what works and does not work, plus email metrics such as open rate, bounce rate and conversion rate can be measured.

- Mobile marketing – here mobile telephone handsets are used to market product-services directly to customers. Either in the form of SMS [short message service] or OTT [over the top] messages from apps such as WhatsApp, Facebook messenger or Apple iMessages. Mobile applications pre-installed or downloadable from the Internet and mobile gaming are other forms of mobile applications and mobile marketing.

Comparison with traditional marketing

In spite of the growth and importance of digital marketing, traditional marketing still retains a place in modern marketing. Although far from exclusive, traditional marketing includes:

- Newspaper and magazine ads, including inserts and pull-outs

- Fly sheets, leaflets, brochures and catalogues

- Billboard and public transportation posters

- POP (point of purchase) displays

- Sales, be it door-to-door, in a retail premises, via telemarketing or via video-conferencing

- Sales letters

Yet, as modern consumers are spending more and more of their time online, digital marketing is slowly taking over from traditional marketing. The modern consumer is a digital consumer, one that consumes online. This is because computers are ubiquitous (here, there and everywhere). In recent years, businesses have shifted their spending on marketing and now businesses tend to spend more money on digital marketing than traditional marketing, though this does depend on the scale of the business and the market it operates in,

A comparison and contrast between the features of traditional marketing and digital marketing:

Traditional marketing	Digital marketing
Physical location	Online via a screen [desktop, tablet or mobile]
Business is in control	Customer in control
Limited interaction with customers	Rich content (text, images, audio and video)
Tried and tested approach, customers have experience	Higher levels of customer engagement
No control over timing	Low-medium costs
Hard to customise to target specific customers	Dynamic environment
Print content (text and images)	Wider and longer reach
Cannot be updated easily	Pull marketing
Medium-high cost	Easy to measure success, both precisely and in real-time
Narrower and shorter reach	Less wasteful
Push marketing	Increased competition for businesses
Uniform product or service offering	Reliance on technology
Difficult to measure success	Complicated for businesses
Wasteful	

Social media analytics (SMA)

SMA is the use of tools used to measure the effectiveness of a businesses' social media presence. It allows the collection of data from social media channels to improve social media campaigns and support business decisions.

SMA allows a business to track:

- Traffic by social channels – which social network sends the business the most visits to websites
- Social media traffic to see how much social media contributes to the business and visits to websites
- Landing pages – to see what website pages get the most hits on social media
- Multi-channel reports – the various paths (organic search, direct search, social media or email) customers take to convert into a sale
- Specific social media campaign results - to track how many visits resulted from a campaign and if these resulted in conversion (a sale)

Given the frequent and heavy use made of social media channels by digital consumers, it is advisable for businesses to monitor social media analytics carefully and constantly. This enables them to find patterns hidden in social media data and monitor in real time social media. Businesses can discover what content is not working and alter it accordingly. Businesses can monitor the return of investment on a particular campaign through the traffic gained from using social media.

Rather than monitor social media analytics separately for each social media channel via the individual onsite analytics, marketers can use social media management systems. These systems automate the process, saving time and giving more in depth and accurate data. The main social media management systems include:

- Hootsuite
- Sprout
- Brandwatch
- Syntheiso

For a cost a business can buy one of these systems and it allows them to manage multiple social networks through dashboards, giving instant feedback and allowing real time tracking of what social media campaigns are working. They can also schedule messages on the various social media platforms through auto content scheduling. A business can generate an overall social media analytics reports, rather than having to trawl through those of the various social media channels.

Social media platforms such as Twitter, Instagram and Youtube have free analytics tools. Google also provides a free analytics tool. These provide a range of services such as tracking which social media platforms are having the most traffic, content engagement and reach and the return of investment on social media campaigns. In addition, analytics can provide information on the followers of certain social media sites, such as their interests, location and lifestyle and also their conversations.

Challengers to digital marketers

Digital marketing is not without its challenges. For example:

- Intensifying competition – digital marketing enables a business to compete in a market without vast resources and economies of scale, consequently the entry and exit barrier to markets are lower, leading to intense competition. Online has levelled the playing field, to some extent. Digital marketing opens up new markets and customers for a business, but It also opens up new competition. A business has to make sure they recruit, train and keep the right employees to make sure the digital team has the right skills to keep up with the competition. It is becoming increasingly important to use SEO to rank high in search results, but this is becoming expensive and can be difficult to achieve and maintain.

- Proliferation of marketing channels – with the continual advancement of technology come new marketing channels. Digital marketers have to get to grips with these quickly and ingrate them into their digital marketing efforts. In addition, they have to make sure the right channels are used in terms of cost and effectiveness, there is a tendency for businesses to be reactive and not proactive in doing this. Managing websites and social media platforms that are continually updating and changing can be a huge challenge for many businesses, especially small and medium scale businesses. Understanding the many tools and new technology that are available can be difficult, with so many options available a business has to choose and utilise the channels and tools that are best for them – not easy.

- Volume of data – the sheer volume of online data can cause paralysis by analysis for a digital marketer. Analytics help with data monitoring, but digital marketers can still struggle to cope with the large volume of data they have to analyse. There are also security and privacy issues that a business must also consider and manage.

Other challenges with digital marketing include:

- How to compete with a small budget
- Low ranking on search engine results pages
- How to use SEO effectively
- Getting clicks but no conversions
- Using influencers to increase awareness
- Attracting the right target market
- Poor or unattractive landing pages