

Cambridge AS & A Level · Business 9609

Business 9609 formulas and definitions: AS Level

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AS Level

1.1 Enterprise

Added value = selling price – cost of bought-in materials and services

Opportunity cost: the benefit of the next best alternative given up when making a choice

Factors of production: land, labour, capital, enterprise

Entrepreneur: spots an opportunity, organises the factors of production and takes the risk of starting a business

Intrapreneur: an employee who acts like an entrepreneur inside a business; the business carries the risk

Dynamic business environment: fast-changing, so businesses must keep adapting (internal and external changes)

Business plan: a written document of a business's objectives and how it will achieve them

Risk can be estimated; uncertainty cannot be measured

1.2 Business structure

Primary: extracts natural resources; secondary: manufactures and processes; tertiary: services; quaternary: knowledge-based services

Public sector: owned or controlled by government; private sector: owned by individuals or private shareholders

Unlimited liability: owners personally liable for all business debts (sole traders, partnerships)

Limited liability: shareholders can lose only what they invested (companies)

Incorporated: separate legal identity and continuity (Ltd, plc)

Ltd: shares sold privately; plc: shares sold to the public, usually on a stock exchange, and accounts published

Shareholder's stake = $\text{shares owned} \div \text{total shares} \times 100$

Partner's share of profit = profit $\times$ partner's part of the agreed ratio

1.3 Size of business

$$\text{Market share} = \frac{\text{firm's sales}}{\text{total market sales}} \times 100$$

Market capitalisation = share price $\times$ number of shares

$$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

$$\text{Profit margin} = \frac{\text{profit}}{\text{revenue}} \times 100$$

Profit is a measure of performance, **not** of size

Organic growth: from within, using own resources; external growth: merger, takeover, joint venture, alliance

Horizontal: same stage; backward vertical: a supplier; forward vertical: a customer or outlet; conglomerate: an unrelated industry

Takeover: buying a controlling interest; hostile takeover: against the target's wishes

1.4 Business objectives

$$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

$$\text{Profit margin} = \frac{\text{profit}}{\text{revenue}} \times 100$$

Mission statement $\rightarrow$ aims $\rightarrow$ objectives $\rightarrow$ strategy $\rightarrow$ tactics (broadest to most detailed)

SMART: specific, measurable, achievable, realistic, time-limited

Triple bottom line: economic (profit), social (people), environmental (planet)

Decision-making: set objectives $\rightarrow$ gather information $\rightarrow$ consider options $\rightarrow$ choose $\rightarrow$ implement $\rightarrow$ review

Private sector: survival, profit, growth, market share, shareholder value; public sector: service, low prices, quality, government targets; social enterprise: social and environmental aims first

1.5 Stakeholders in a business

Stakeholder: an individual or group with an interest in the business, who affects or is affected by its activities

Internal: owners or shareholders, managers, employees. External: customers, suppliers, lenders, government, local community, competitors, pressure groups

Shareholders are one stakeholder group (internal), not another word for stakeholders

$$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

Accountability: annual report and accounts, AGM, laws and regulators, CSR reports

2.1 Human resource management (HRM)

$$\text{Labour turnover} = \frac{\text{number of employees leaving in the period}}{\text{average number of employees in the period}} \times 100$$

Recruitment attracts applicants (adverts, agencies, online); selection chooses one (CV, résumé, form, interview, references, tests, assessment centre)

Job description = the job; person specification = the ideal person

Redundancy = the job is no longer needed (voluntary or involuntary); dismissal = ended because of the employee (fair or unfair)

Induction = new staff; on-the-job = at work, while working; off-the-job = away from the job

Collective bargaining: a union negotiates for all its members at once

2.2 Motivation

Time-based pay = hours worked $\times$ rate per hour

Monthly salary = annual salary $\div 12$

Piece-rate pay = units produced $\times$ rate per unit (add up each product separately)

Commission = commission rate $\times$ value of the employee's sales; total pay = basic pay + commission

Vroom's expectancy theory: motivation = $E \times I \times V$ (expectancy, instrumentality, valence)

Content theories (what motivates): Taylor, Mayo, Maslow, Herzberg, McClelland. Process theory (how people decide): Vroom

Maslow's levels, bottom to top: physical, safety, social, esteem, self-actualisation

Herzberg: hygiene factors only prevent dissatisfaction; motivators create satisfaction

McClelland's three needs: achievement, affiliation, power (authority)

Financial motivators: time-based pay, salary, piece rate, commission, bonus, profit sharing, performance-related pay, fringe benefits

Non-financial motivators: training, promotion, development, status, job re-design, team working, empowerment, participation, job enrichment

2.3 Management

Traditional manager functions: planning, organising, directing, controlling

Fayol's functions of management: forecasting and planning, organising, commanding, coordinating, controlling

Mintzberg's interpersonal roles: figurehead, leader, liaison

Mintzberg's informational roles: monitor, disseminator, spokesperson

Mintzberg's decisional roles: entrepreneur, disturbance handler, resource allocator, negotiator

Management styles by who decides: autocratic = the manager alone; paternalistic = the manager, on the staff's behalf; democratic = the manager with employees; laissez-faire = employees

McGregor's Theory X manager assumes workers dislike work and need control; Theory Y manager assumes workers seek responsibility and can be trusted

3.1 The nature of marketing

$$\text{Market share} = \frac{\text{sales of the business}}{\text{total market sales}} \times 100$$

$$\text{Total market size} = \frac{\text{sales of the business}}{\text{market share (\%)}} \times 100$$

$$\text{Market growth} = \frac{\text{new market size} - \text{old market size}}{\text{old market size}} \times 100$$

Change in market share is in **percentage points**: from 18% to 15% is a fall of 3 percentage points

Demand rises: price and quantity both rise. Supply falls: price rises, quantity falls

Price changes the quantity demanded or supplied (along the curve); other factors shift the curve

Segmentation methods: geographic, demographic, psychographic

3.2 Market research

$$\text{Percentage of respondents} = \frac{\text{number giving the answer}}{\text{total respondents}} \times 100$$

$$\text{Number of respondents from a percentage} = \frac{\text{percentage}}{100} \times \text{number of respondents}$$

$$\text{Response rate} = \frac{\text{number of replies}}{\text{number asked}} \times 100$$

$$\text{Percentage change} = \frac{\text{new value} - \text{old value}}{\text{old value}} \times 100$$

$$\text{Market share} = \frac{\text{one firm's sales}}{\text{total market sales}} \times 100; \text{ total market sales} = \frac{\text{one firm's sales}}{\text{its share as a decimal}}$$

$$\text{Index number} = \frac{\text{value in the year}}{\text{value in the base year}} \times 100, \text{ with the base year} = 100$$

$$\text{Mean} = \frac{\text{sum of the values}}{\text{number of values}}; \text{ median} = \text{middle value in order}; \text{ mode} = \text{most common value}$$

Primary research produces new information, gathered by the business itself to answer its own questions; secondary research uses information that already exists, gathered by others or earlier for another reason

Market research finds out about the market (size, growth, competitors) and about buyers (profiles, wants and needs), to lower the risk of decisions

3.3 The marketing mix

The 4Ps of the marketing mix: product, price, promotion, place

$$\text{total cost} = \text{variable cost per unit} \times \text{quantity} + \text{allocated fixed costs}$$

Cost-based price: $\text{price} = \text{unit cost} \times \left(1 + \frac{\text{mark-up}}{100}\right)$, where $\text{unit cost} = \frac{\text{total cost}}{\text{quantity}}$

$\text{revenue} = \text{price} \times \text{quantity sold}$

Product life cycle stages: development, introduction, growth, maturity, decline

Boston Matrix: star = high share, high growth; question mark = low share, high growth; cash cow = high share, low growth; dog = low share, low growth

The seven pricing methods: competitive, penetration, skimming, price discrimination, dynamic, cost-based, psychological

4.1 The nature of operations

$\text{Labour productivity per worker} = \frac{\text{output in the period}}{\text{number of workers}}$

$\text{Labour productivity per labour hour} = \frac{\text{output in the period}}{\text{total hours worked}}$

$\text{Total hours worked} = \text{number of workers} \times \text{hours worked by each}$

$\text{Added value} = \text{selling price} - \text{cost of bought-in materials and services}$

$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$

Factors of production: land, labour, capital, enterprise

Transformational process: inputs → process → outputs

Operations methods: job, batch, flow, mass customisation

4.2 Inventory management

Three kinds of inventory: raw materials (and components), work in progress, finished products

Buffer inventory: the minimum stock level kept at all times as a safety margin against late deliveries or unexpected demand

Lead time: the time from placing an order with a supplier to receiving the goods

Re-order level: the quantity of stock at which a new order is placed

$\text{Re-order level} = \text{buffer inventory} + (\text{usage per period} \times \text{lead time})$

$\text{Maximum inventory} = \text{buffer inventory} + \text{re-order quantity (when deliveries arrive on time)}$

$\text{Units used or sold from a chart} = \text{sum of the tops of each fall} - \text{sum of the bottoms of each fall}$

$\text{Units used or sold} = \text{opening inventory} + \text{deliveries} - \text{closing inventory}$

JIT: inventory arrives just when it is needed, so little or none is stored

JIC: extra inventory is kept deliberately, in case demand rises or supplies fail

Supply chain management: coordinating the flow of goods, services and information from suppliers, through the business, to the customer

4.3 Capacity utilisation and outsourcing

Maximum capacity: the most output a business can produce and sustain in a period with its current resources

$$\text{Capacity utilisation} = \frac{\text{current output}}{\text{maximum possible output}} \times 100$$

Spare (excess) capacity = maximum capacity – current output

Capacity utilisation above 100%: operating over maximum capacity, possible only in the short term

$$\text{Fixed cost per unit} = \frac{\text{total fixed costs}}{\text{output}}, \text{ so it falls as capacity utilisation rises}$$

Two ways to improve capacity utilisation: raise output within existing capacity, or cut capacity (rationalisation)

Rationalisation: reducing the scale of operations, such as closing a site or selling machines, to cut spare capacity

Outsourcing (subcontracting): paying another business to carry out a business activity or function

5.1 Business finance

Businesses need finance to start up, to grow and to survive

Short-term need: under a year (inventory, wages, bills); long-term need: over a year (premises, machinery, expansion)

Profit = revenue – costs over a period; cash = money actually held at a point in time

Working capital = current assets – current liabilities (net current assets)

Current assets: inventory, trade receivables, cash; current liabilities: trade payables, overdraft, short-term loans, tax due

Trade receivables: money owed to a business by customers for goods or services supplied on credit and not yet paid for

Trade payables: money a business owes its suppliers for goods or services received on credit and not yet paid for

Change in working capital = this year's working capital – last year's

Capital expenditure: spending on non-current assets used for more than a year

Revenue expenditure: spending on day-to-day running costs used up within the year

Bankruptcy: an individual (sole trader, partner) declared unable to pay debts; personal assets can be sold

Liquidation: a company's assets are sold to pay creditors and the company is closed

Administration: an administrator takes control of an insolvent company to try to rescue it before liquidation

5.2 Sources of finance

Internal finance comes from within the business or its owners (owners' investment, retained earnings, sale of unwanted assets, sale and leaseback, working capital); external finance comes from outside it

Match the term: long-term needs (premises, machinery) need long-term finance; short-term needs (inventory, wages) need short-term finance

Retained earnings: profit kept in the business rather than paid to the owners

Sale and leaseback: selling a non-current asset and renting it back, so the business gets cash but keeps using the asset

Overdraft: an agreed limit up to which a business may take more money from its bank account than it holds; interest only on the amount overdrawn

Debt factoring: selling unpaid customer invoices to a factoring company for immediate cash, less a fee

Leasing: renting an asset for a fixed period; the leasing company keeps ownership

Hire purchase: a deposit and fixed instalments, with ownership passing to the buyer after the final instalment

Venture capital: risk capital for a small, fast-growing business, given in exchange for part-ownership

Debentures: long-term loans to a company from investors, with fixed interest, a set repayment date and no vote

Government grant: money from the government for a business or project, which usually does not have to be repaid

Factors in the choice of source: cost, flexibility, need to keep control, the use the money is put to, level of existing debt

Total cost of hire purchase = deposit + instalment $\times$ number of instalments

Total cost of leasing = lease payment $\times$ number of payments

Months before leasing has cost as much as buying = purchase price $\div$ monthly lease payment

Interest for one year = amount borrowed $\times$ annual interest rate

5.3 Forecasting and managing cash flows

Cash flow: the money flowing into and out of a business over a period (receipts and payments)

Cash flow forecast: an estimate of a business's future cash inflows and outflows, and the cash balances they leave, usually month by month

Net cash flow = total cash inflows – total cash outflows

Closing balance = opening balance + net cash flow

Opening balance for a month = closing balance of the month before

Missing opening balance = closing balance – net cash flow

Missing inflow = closing balance – opening balance + total outflows – the other inflows

In a cash flow forecast a negative figure is shown in brackets or with a minus sign, for example (4) or –4; the sign must be kept in the answer

Profit is revenue minus costs for a trading period (income statement); cash is the money actually received and paid when it moves

Improving cash flow: bring cash in sooner or in larger amounts, or pay cash out later or in smaller amounts

5.4 Costs

Fixed costs do not change with the level of output in the short run; variable costs change in proportion to output

Direct costs can be traced to one product, service or cost centre; indirect costs (overheads) are shared and cannot

Total cost = fixed costs + total variable costs

Total variable costs = variable cost per unit × output

Average (unit) cost = total cost ÷ output

Marginal cost: the increase in total cost when output rises by one unit

Profit = total revenue – total costs (direct costs + indirect costs)

Profit margin = profit ÷ revenue × 100

Full costing: every cost, fixed and variable, is shared out among the products or cost centres

Contribution costing: only variable (direct) costs are charged to products; fixed costs are paid from total contribution

Contribution per unit = price – variable cost per unit

Total contribution = total revenue – total variable costs = contribution per unit × units sold

Profit = total contribution – fixed costs

Break-even output = fixed costs ÷ contribution per unit

Output for a target profit = (fixed costs + target profit) ÷ contribution per unit

Fixed costs = break-even output × contribution per unit

Price needed to break even at a given output = fixed costs ÷ output + variable cost per unit

Margin of safety = actual (or forecast) output – break-even output, in units

Margin of safety as a percentage = margin of safety ÷ actual output × 100

Profit = margin of safety × contribution per unit

Contribution of a special order = (order price – variable cost per unit) × units – any extra fixed costs of the order

5.5 Budgets

A budget is a financial plan for a future period, agreed in advance and used as a target

Variance = actual figure – budgeted figure (state the size and whether it is favourable or adverse)

Favourable variance: revenue above budget, or a cost below budget (profit higher than planned)

Adverse variance: revenue below budget, or a cost above budget (profit lower than planned)

Percentage variance = $\text{variance} \div \text{budgeted figure} \times 100$

Budgeted profit = budgeted revenue – budgeted total costs; actual profit = actual revenue – actual total costs

Budgeted cost per unit = $\text{budgeted total cost} \div \text{budgeted number of units}$

Incremental budget = last period's budget adjusted by a set amount or percentage

Zero budgeting: every budget starts at zero and each item of spending must be justified

Flexible budget: variable costs re-worked for actual output = $\text{variable cost per unit} \times \text{actual output}$; fixed costs unchanged
