

Cambridge AS & A Level · Business 9609

Business 9609 formulas and definitions: A2

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A Level

6.1 External influences on business activity

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

With the exchange rate as foreign currency per one unit of home currency: price abroad = home price $\times$ exchange rate

With the exchange rate as foreign currency per one unit of home currency: home-currency cost of an import
 $= \frac{\text{foreign price}}{\text{exchange rate}}$

Appreciation: exports dearer abroad, imports cheaper. Depreciation: exports cheaper abroad, imports dearer

Change in yearly interest = loan $\times$ change in interest rate

Monetary policy: interest rates and money supply. Fiscal policy: taxation and government spending. Supply-side policy: long-run efficiency (training, deregulation, privatisation)

Macroeconomic objectives: low unemployment, low inflation, economic growth

Privatisation: state to private ownership. Nationalisation: private to state ownership

External influence: a factor outside the business that it cannot control, which can be a constraint or an opportunity

Environmental audit: a check of a business's effect on the environment and how sustainable it is

6.2 Business strategy

$$\text{EMV of an option} = \sum (\text{probability} \times \text{financial result}) - \text{cost of the option}$$

On a decision tree, the probabilities of the outcomes from one chance node add up to 1

Decision tree symbols: a square is a decision point, a circle is a chance point

Force field analysis: compare total driving forces with total restraining forces; weaken restraining forces or strengthen driving forces to make a change succeed

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

Strategic management: strategic analysis, strategic choice, strategic implementation

SWOT: strengths and weaknesses are internal; opportunities and threats are external

PEST: political, economic, social, technological (external factors only)

Porter's five forces: rivalry, threat of new entrants, threat of substitutes, buyer power, supplier power

Ansoff matrix: market penetration (lowest risk), product development, market development, diversification (highest risk)

Blue ocean strategy: create uncontested market space through differentiation at low cost; red ocean: crowded, existing markets

7.1 Organisational structure

Organisational structure: the formal arrangement of who does what, who reports to whom and who can make which decisions

A good structure is flexible, meets the business's needs, allows growth and development, and encourages intrapreneurship

Span of control: the number of people reporting directly to one manager

For the same number of staff, a wider span of control means fewer levels of hierarchy (a flatter structure)

Delegation: passing authority to make decisions down the hierarchy

Authority can be delegated; the delegating manager's responsibility for the result cannot

Accountability: having to answer to the person above for decisions and results

Centralised: important decisions kept at the top; decentralised: decision-making authority passed down to managers of regions, branches, products or departments

Matrix structure: project teams of specialists from different functions, each reporting to a functional and a project manager

Line: in the chain of command, doing the core work; staff: specialists who advise and support the line

7.2 Business communication

Communication: passing information from a sender to a receiver so that it is received and understood

The parts of communication: sender, message, method (medium), channel, receiver, feedback

The four methods of communication: spoken, written, electronic, visual

One-way communication: from sender to receiver with no feedback; two-way communication includes feedback

Vertical communication passes between levels of the hierarchy (up or down); horizontal communication passes between people at the same level

Formal channels follow the business's structure; informal communication (the grapevine) is unofficial contact between staff

Barrier to communication: anything that stops a message being sent, received or understood as intended

7.3 Leadership

Purposes of leadership: set a direction, inspire and motivate, make key decisions, lead change, set the culture, represent the business

Leadership roles in a business: directors, managers, supervisors, worker representatives

Leadership theories: trait (who the leader is), behavioural (what the leader does), contingency (it depends on the situation), power and influence (where the leader's power comes from), transformational (inspiring change through a vision)

French and Raven's sources of power: legitimate, reward, coercive, expert, referent

Emotional intelligence: the ability to recognise and control your own emotions and to recognise and respond to other people's

Goleman's four competencies of emotional intelligence: self-awareness, self-management, social awareness, social skills

$$\text{Labour turnover} = \frac{\text{number of staff leaving in a period}}{\text{average number of staff employed}} \times 100$$

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

7.4 Human resource management (HRM) strategy

$$\text{Labour productivity} = \frac{\text{output in a period}}{\text{number of employees}} \quad (\text{units per employee, not dollars})$$

$$\text{Absenteeism rate} = \frac{\text{days lost through absence}}{\text{number of employees} \times \text{working days per employee}} \times 100$$

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

$$\text{Average number of employees} = \frac{\text{number at start} + \text{number at end}}{2}$$

Hard HRM: employees as a cost to control (close supervision, imposed targets, flexible contracts to cut cost, minimum training); soft HRM: employees as an asset to develop (training, delegation, consultation, appraisal)

Flexible contracts: temporary, zero hours, part-time, full-time, annualised hours, flexi-time, home working, shift working, job sharing, compressed hours, gig economy

Measures of employee performance: labour productivity, absenteeism, labour turnover, waste or reject rate, accidents, lateness, complaints

MBO: objectives agreed between managers and employees, linked to the business's objectives, then monitored, reviewed and rewarded

8.1 Marketing analysis

$\% \text{ change} = (\text{new} - \text{original}) \div \text{original} \times 100$

$\text{PED} = \% \text{ change in quantity demanded} \div \% \text{ change in price}$ (negative for almost all products)

$\text{YED} = \% \text{ change in quantity demanded} \div \% \text{ change in income}$

$\text{PrED} = \% \text{ change in quantity demanded} \div \% \text{ change in promotional spending}$

Rearranged: $\% \text{ change in quantity demanded} = \text{elasticity} \times \% \text{ change in price, income or promotion}$

Size above 1: elastic (responsive); size below 1: inelastic (less responsive); exactly 1: unit elastic

YED positive: normal good (above 1: luxury, income elastic); YED negative: inferior good

Revenue = price $\times$ quantity; price elastic: a price cut raises revenue; price inelastic: a price rise raises revenue

Four-period centred moving average (trend) = (two consecutive four-quarter totals added) $\div$ 8

Seasonal variation = actual – trend (keep the sign)

Average seasonal variation = total of that quarter's seasonal variations $\div$ number of them

Forecast = projected trend + average seasonal variation for that quarter

8.2 Marketing strategy

Contents of a marketing plan: objectives, resources (budget, people, time), research, marketing mix

SMART objectives: specific, measurable, achievable, realistic, time-bound

Coordinated marketing strategy: the four Ps consistent with each other, with the target market, with the budget and with the marketing objective

A marketing strategy must be consistent with the business, the product and the market

Methods of international entry, least to most commitment: agent or distributor, direct exporting, licensing, franchising, joint venture, direct investment

Pan-global marketing: one standard marketing mix in every country; local differences: the mix adapted to each country

Weighted score of an option = $\sum (\text{weight} \times \text{score})$ over all the factors

Forecast $\% \text{ change in quantity demanded} = \text{elasticity} \times \% \text{ change in price}$ (or in promotional spending)

With the price unchanged, revenue changes by the same percentage as the quantity sold

Marketing spend per customer = $\frac{\text{marketing spending}}{\text{number of customers}}$

9.1 Location and scale

Optimal location: the site giving the best balance of low costs and high revenue, quantitative and qualitative factors included

Relocation: moving an existing operation to a new site

Offshoring: moving a business activity from the home country to another country

Reshoring: bringing an offshored activity back to the home country

Globalisation: growing connection of the world's economies through trade, investment and information

$$\text{Average (unit) cost} = \frac{\text{total cost}}{\text{output}}$$

Economies of scale: falls in average (unit) cost as a business increases its scale of operations

Internal economies of scale: purchasing, technical, managerial, financial, marketing, risk-bearing

External economies of scale: from the growth of the industry in an area (concentration, infrastructure)

Diseconomies of scale: rises in average (unit) cost when a business grows beyond a certain scale

Causes of internal diseconomies: communication, coordination and control, slow decisions, low motivation

9.2 Quality management

Quality: how well a product meets the expectations of the customers who buy it, at the price they pay

Quality control: finding faults by inspecting or testing finished products or samples (detection)

Quality assurance: standards set for every stage of production, with checks at each stage (prevention)

TQM: every employee in every department responsible for quality; internal customers, zero defects, continuous improvement

Internal customer: the person or department inside the business that receives your work next

Benchmarking: comparing performance with the best performers, then setting targets and changing methods to match them

$$\text{Percentage of output failing quality standards} = \frac{\text{units that fail}}{\text{total output}} \times 100$$

$$\text{Cost of correcting faulty output} = \text{output} \times \text{fault rate} \times \text{cost of correcting one unit}$$

9.3 Operations strategy

EST of a node = the largest value of (EST of the node an arrow comes from + that arrow's duration); the first node's EST is 0

LFT of a node = the smallest value of (LFT of the node an arrow goes to – that arrow's duration); the final node's LFT equals its EST

$$\text{Total float of an activity} = \text{LFT of its end node} - \text{its duration} - \text{EST of its start node}$$

Free float of an activity = EST of its end node – its duration – EST of its start node

Minimum project duration = EST of the final node = the sum of the durations of the activities on the critical path

Critical path: the activities with zero total float, through nodes where EST = LFT

Dummy activity: a dashed arrow, with no duration and no resources, that shows a dependency

Three kinds of operational flexibility: volume, delivery time, specification

Process innovation changes how a product is made or a service delivered; product innovation changes what is sold

ERP: one shared database used by every department through its own module

Lean production: making the product with the least possible amount of every input by removing all kinds of waste

10.1 Financial statements

Gross profit = revenue – cost of sales

Cost of sales = opening inventory + purchases – closing inventory

Profit from operations (operating profit) = gross profit – expenses

Profit for the year = operating profit – interest (if any) – taxation

Retained earnings for the year = profit for the year – dividends

Net current assets = current assets – current liabilities

Net assets = non-current assets + net current assets – non-current liabilities = total assets – total liabilities

Total equity = share capital + reserves, and total equity = net assets

Net realisable value = expected selling price – costs of selling

Inventory is valued at the lower of its cost and its net realisable value

Straight-line depreciation per year = (cost – residual value) ÷ useful life in years

Carrying amount (net book value) = cost – total depreciation charged so far

10.2 Analysis of published accounts

Current ratio = current assets ÷ current liabilities, written as $x : 1$

Acid test ratio = (current assets – inventory) ÷ current liabilities, written as $x : 1$

Capital employed = issued share capital + reserves + non-current liabilities

ROCE = operating profit ÷ capital employed × 100

Gross profit margin = gross profit ÷ revenue × 100

Operating profit margin = operating profit $\div$ revenue $\times 100$

Profit margin = profit for the year $\div$ revenue $\times 100$

Operating profit = revenue – cost of sales – expenses; profit for the year = operating profit – interest – tax

Rate of inventory turnover = cost of sales $\div$ average inventory (times a year), where average inventory = (opening + closing inventory) $\div 2$

Trade receivables turnover = trade receivables $\div$ credit sales $\times 365$ (days)

Trade payables turnover = trade payables $\div$ credit purchases (or cost of sales) $\times 365$ (days)

Gearing ratio = non-current liabilities $\div$ capital employed $\times 100$

Dividend per share = total dividends $\div$ number of shares

Earnings per share = profit for the year $\div$ number of shares

Dividend yield = dividend per share $\div$ share price $\times 100$

Dividend cover = profit for the year $\div$ total dividends (times)

Price/earnings ratio = share price $\div$ earnings per share

10.3 Investment appraisal

Cumulative net cash flow: start with the capital cost as a negative figure and add each year's net cash flow

Payback months = amount still to recover at the start of the payback year $\div$ that year's net cash flow $\times 12$

Total profit of a project = total net cash flows – capital cost

Average (annual) profit = total profit $\div$ number of years

Average investment = (capital cost + residual value) $\div 2$

ARR = average profit $\div$ average investment $\times 100$ (%)

Present value = net cash flow $\times$ discount factor for that year

NPV = total present value of the future net cash flows – capital cost

Positive NPV: the project beats the return set by the discount rate; negative NPV: it falls short

10.4 Finance and accounting strategy

Capital employed = issued share capital + reserves + non-current liabilities

Gearing = non-current liabilities $\div$ capital employed $\times 100$ (%)

Forecast gearing after borrowing L = (non-current liabilities + L) $\div$ (capital employed + L) $\times 100$

Forecast gearing after raising S from new shares = non-current liabilities $\div$ (capital employed + S) $\times 100$

Existing owners' share after a share issue = existing shares $\div$ (existing shares + new shares) $\times 100$ (%)

ROCE = operating profit $\div$ capital employed $\times 100$ (%)

Gross profit margin = $\text{gross profit} \div \text{revenue} \times 100$; operating profit margin = $\text{operating profit} \div \text{revenue} \times 100$ (%)

Operating profit = revenue – cost of sales – expenses; profit for the year = operating profit – interest – tax

Current ratio = $\text{current assets} \div \text{current liabilities}$; acid test ratio = $(\text{current assets} - \text{inventory}) \div \text{current liabilities}$ (both written $x : 1$)

Trade receivables turnover = $\text{trade receivables} \div \text{credit sales} \times 365$; trade payables turnover = $\text{trade payables} \div \text{credit purchases} \times 365$ (days)

Rate of inventory turnover = $\text{cost of sales} \div \text{average inventory}$ (times)

Dividend per share = $\text{total dividends} \div \text{number of shares}$; dividend yield = $\text{dividend per share} \div \text{share price} \times 100$ (%)

Dividend cover = $\text{profit for the year} \div \text{total dividends}$ (times)

Earnings per share = $\text{profit for the year} \div \text{number of shares}$; P/E ratio = $\text{share price} \div \text{earnings per share}$

Retained profit = $\text{profit for the year} - \text{dividends}$

Value an offer puts on the whole company = $\text{price offered} \div \text{fraction of the shares bought}$
