Basic Formulas in Business

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market share: $\dfrac{\text{sales of a business}}{\text{total sales in the market}} \times 100\%$

inverse relationship: *downward sloping* curve

relationship between 2 variables: 2-dimensional graph

total revenue: total revenue = price $\times$ quantity

price elasticity of demand (PED): $\dfrac{\%^{tage}\text{change in quantity demanded}}{\%^{tage}\text{change in price}}$

% ^{tage} change : $\dfrac{\text{difference between the two numbers}}{\text{original number}} \times 100$

income elasticity of demand (IED): $\dfrac{\%^{tage}\text{change in quantity demanded}}{\%^{tage}\text{change in income}}$

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total interest: interest rate % $\times$ amount of loan (in £)

share entitlement: $\dfrac{\#\text{ of new shares offered}}{\#\text{ of shares held}} \times$ shares owned

cost of share purchase: share entitlement $\times$ discounted price

net cash flow: total receipts - total payments

closing balance (at t): opening balance (at t) + net cash flow (at t)

opening balance (at t): closing balance (at $t-1$)

time series model (for sales): trend + seasonality + cyclical fluctuations + random fluctuations

sales revenue: price $\times$ quantity of output

total cost: fixed cost + variable cost

average cost: $\dfrac{\text{total cost}}{\text{output}}$

profit: total revenue - total cost
or
profit: total contribution - fixed costs

contribution per unit: selling price - variable cost

total contribution: total revenue - total variable cost
or
total contribution: unit contribution $\times$ number of units sold

break-even output: $\dfrac{\text{fixed-cost}}{\text{contribution}}$

income variance: income (at t) - income (at $t-1$)

expenditure variance: expenditure (at t) - expenditure (at $t-1$)

gross profit: revenue - cost of sales

operating profit: gross profit - operating expenses

profit for the year (net profit): operating profit - interest (and exceptional costs)

gross profit margin: $\dfrac{\text{gross profit}}{\text{revenue}} \times 100\%$

operating profit margin: $\dfrac{\text{operating profit}}{revenue} \times 100\%$

profit for the year (net profit) margin: $\dfrac{\text{net profit before tax}}{\text{revenue}} \times 100\%$

net interest: interest paid - interest received

assets: capital + liabilities

net assets: total assets - total liabilities

current ratio: $\dfrac{\text{current assets}}{\text{current ratios}}$

acid test ratio: $\dfrac{\text{current assets - inventories}}{\text{current liabilities}}$

working capital: current assets - current liabilities

level:

rate:

capacity utilisation: $\dfrac{\text{current output}}{\text{maximum possible output}} \times 100\%$

current output: capacity of business $\times$ capacity utilisation

index number:

exchange rate:

THEME 3

moving average:

Coordinate $(\bar{X})$ for line of best fit: $\dfrac{\sum X \ \ \text{(the total years)}}{N \ \ \text{(the number of years)}}$

Coordinate $(\bar{Y})$ for line of best fit : $\dfrac{\sum Y \ \ \text{(the total sales in the trend)}}{N \ \ \text{(the number of years)}}$

variations from trend: actual sales - trend

correlation coefficient: $r = \dfrac{\sum XY}{\sqrt{(\sum X^2)(\sum Y^2)}}$

correlation coefficient: sign $(+ \text{ or } -)$

payback time:

average rate of return (ARR): $\dfrac{\text{net return (profit) per annum}}{\text{capital outlay (cost)}} \times 100\%$

net present value:

discounted cash-flow:

expected monetary values (EMV):   expected value = probability $\times$ expected profit
        + probability $\times$ expected loss

probability:

earliest start time (EST):

latest finish time (LFT) of earlier nodes: LFT at node - time taken to complete previous task

total float: LFT of activity - EST of activity - duration

free float: EST start of next task - EST start of this task
                    - duration

net profit after taxation   net profit - taxation

gearing ratio: $\dfrac{\text{non-current liabilities}}{\text{capital employed}} \times 100\%$

return on capital employed (ROCE): $\dfrac{\text{operating profit}}{\text{capital employed}} \times 100\%$

labour productivity: $\dfrac{\text{total output (per period of time)}}{\text{average \# of employees (per period of time)}}$

labour turnover: $\dfrac{\text{\# of staff leaving over time period}}{\text{average \# of staff in post during the period}} \times 100\%$

labour retention: $\dfrac{\text{\# of staff staying over time period}}{\text{average \# of staff in post during the period}} \times 100\%$

rate of absenteeism: $\dfrac{\text{\# of staff absent on a day}}{\text{total \# of staff employed}} \times 100\%$

annual **rate of absenteeism**: $\dfrac{\text{total \# of staff absence days over a year}}{\text{total \# of staff days that should have been worked}} \times 100\%$

literacy rate:

Human Development Index (HDI):