DP IB Business Management: SL

Your notes

6.1 The Business Management Toolkit

Contents

SWOT Analysis

Understanding SWOT Analysis

- SWOT Analysis is an analytical tool used by businesses to identify

  - Internal **strengths** and **weaknesses**

  - External **opportunities** and **threats**

- Effective SWOT analysis can help senior managers to **understand the current business position** and **future changes that may occur** so that **appropriate strategic decisions** may be made

Factors Considered in a SWOT Analysis

STRENGTHS	WEAKNESSES
What the business is good at For example: • Qualities that separate the business from rivals • Internal resources such as skilled staff or a particular **innovation** • Possession of assets such as capital, **patents** or **intellectual property** • A loyal customer base • Effective leadership	**What the business does poorly** For example: • Ways in which the business lags behind competitors • Resource or capital limitations, including labour and finance • Lack of a competitive advantage • Lack of a **unique selling proposition (USP)** • Poor online presence
OPPORTUNITIES	THREATS
Options a business may exploit to enjoy further success For example: • Developing markets for specific products become apparent • Few competitors exist	**Hazards that have the potential to damage business performance** For example: • New or emerging competitors are **gaining market share** • A changing legal or political environment negatively impacting on business processes and decisions

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|	
• A changing legal or political environment positively impacts on business processes and decisions • Social or **technological developments** create an emerging need for the businesses products • Economic indicators becoming more favourable • A potential for positive media coverage of the business	• Social or technological developments threaten **obsolescence of products** • Economic indicators becoming less favourable • Negative press coverage • Changing customer attitudes towards the business

- Once a SWOT Analysis has been completed by a business, appropriate decisions can be made to improve performance

  - Strengths should be **harnessed**

  - Weaknesses should be **eliminated**

  - Opportunities should be **seized**

  - Threats should be **mitigated**

Diagram: example SWOT analysis
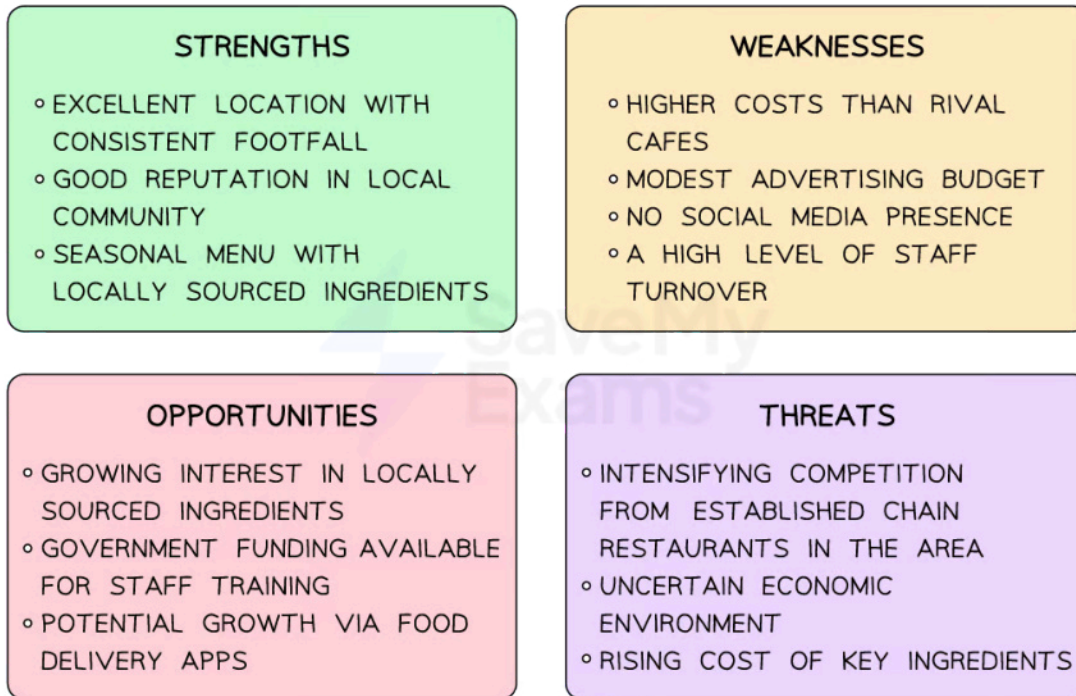
An example of a SWOT Analysis for a small cafe business

- Having compiled the SWOT Analysis the owner of the cafe may conclude that the business should

  - Seize the **opportunity** presented by the growing interest in locally sourced ingredients by promoting the cafe's **strength** of its seasonal, locally sourced menu, especially given the **threat** from large competitors

  - Make use of the government funding for staff training to attempt to reduce staff turnover

  - Increase the volume of sales to a geographically wider target market by teaming up with delivery apps and establishing an inexpensive social media presence

Evaluating the SWOT Analysis Tool

- The usefulness of SWOT analysis depends on a range of factors

Factors Affecting the Usefulness of SWOT Analysis

Factor	Explanation

| The quality & relevance of data used | ■ The **accuracy** and **reliability** of the data used for SWOT analysis greatly influence its usefulness |
	■ If the information used for analysis is **outdated, incomplete** or **biased,** it can lead to flawed conclusions and ineffective decision-making
Objectivity & bias	■ SWOT analysis requires a **fair and unbiased** assessment of the organisation's internal and external factors
	■ If the analysis is influenced by personal biases, preconceived notions or subjective opinions, it can undermine the usefulness of the analysis
Depth of analysis	■ Superficial analysis may **overlook important factors** or fail to capture the complexity of the organisation's environment
	■ A comprehensive and thorough analysis can provide more accurate insights and improve the usefulness of SWOT analysis
Stakeholder involvement	■ SWOT analysis should involve **input from various stakeholders** within the organisation, including employees, managers, customers, suppliers, and industry experts
	■ Their **diverse perspectives** can provide a broader understanding of the organisation's strengths, weaknesses, opportunities and threats, thus increasing the usefulness of the analysis
Dynamic nature of the business environment	■ As **market conditions, technology and consumer preferences change over time,** the relevance of identified strengths, weaknesses, opportunities and threats may also shift
	■ **Regular updates and revisions** to the analysis are necessary to ensure its usefulness

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Ansoff Matrix

Development of Corporate Strategy

- Ansoff's Matrix is a tool for businesses who want to grow quickly and have a **growth objective**

- It is used to identify an **appropriate corporate strategy** and identify the **level of risk** associated with the chosen strategy

- The model considers four elements, which are broken down into two categories

  - **The market** – existing and new markets

  - **The product** – existing and new products

Diagram: Ansoff's matrix
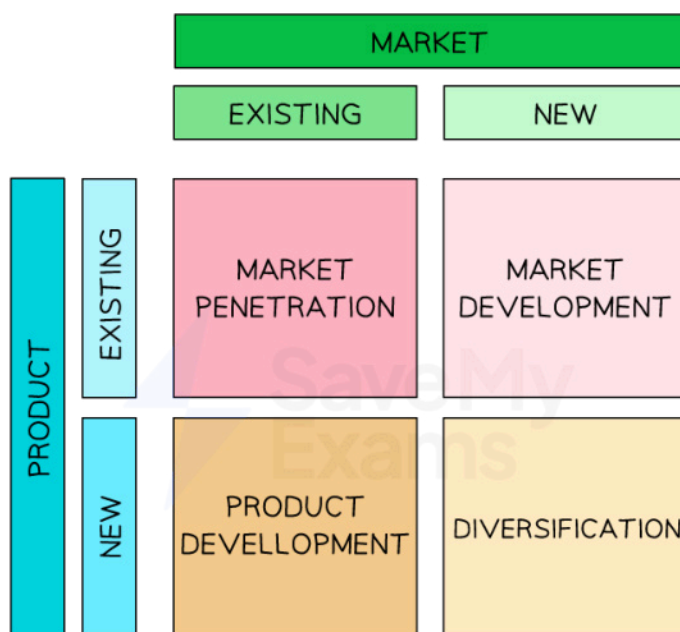
Ansoff's Strategic Matrix

Market penetration

- The **least risky** strategy to achieve growth is to pursue a strategy of **market penetration**

  - This involves **selling more products to existing customers** by encouraging

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- More regular use of the product

- Increased usage of the product

- Brand loyalty of customers
- **Market development** involves finding and exploiting **new market opportunities for existing products** by

  - Entering new markets **abroad**

  - **Repositioning** the product by selling to different **customer profiles** (selling to other businesses as well as direct to consumers)

  - Seeking **complementary locations**

    - E.g. M&S Food has achieved significant growth since teaming up with fuel retailers such as BP and Applegreen and providing express retail outlets

Product development

- **Product Development** involves selling **new or improved products to existing customers** by

  - Developing **new versions or upgrades** of existing successful products

  - **Redesigning packaging** and aesthetic features

  - **Relaunching heritage products** at commercially convenient intervals

    - E.g. Lindt relaunches Christmas-themed products each year, often with a subtle design change, to recapture the interest of customers

Diversification

- **Diversification** is the **most risky** growth strategy as it involves **targeting new customers with entirely new or redeveloped products**

  - Examples of diversification include

    - UK supermarket **Tesco** launching a range of financial products including current accounts and credit cards

    - Café chain **Greggs** launching a range of **themed clothing products**

STEEPLE Analysis

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STEEPLE Analysis

- STEEPLE analysis examines factors outside of the business (**external)** that are likely to impact the business

- STEEPLE analysis can **support effective decision-making** as senior managers will gain a better **understanding of the complex context** within which the business operates

- STEEPLE Analysis is particularly useful in the following situations

  - **Product development**
    STEEPLE analysis can provide guidance on whether the business should keep selling a product to a particular region

  - **Workforce planning**
    STEEPLE analysis can help identify emerging business changes that can affect the future job market

  - **Strategic business planning**
    STEEPLE analysis is beneficial when starting a business planning process as it provides a detailed guide that includes growth targets, brand positioning, and potential risks

  - **Marketing planning**
    STEEPLE analysis provides a business with information on external factors which could be used to create a marketing strategy

An Explanation of the STEEPLE Factors

External Factor	Explanation	Examples
Social	- The extent to which **personal attitudes and values, culture and demographic change** are expected to affect the business including **Social mobility** - Education - Ethics & Religion **Migration** - Health profile	- Greater numbers of people graduating from university have increased the quality of workers available to European businesses - A more health-conscious population provides a lucrative market for businesses selling fitness and lifestyle products

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	▪ Population growth and demographic structure	

Technological	▪ The extent to which **technological change and innovation** are expected to impact the business including
	
	  ▪ Research & development
	
	  ▪ Production and distribution processes and efficiency
	
	  ▪ Quality and new materials
	
	  ▪ **Intellectual property**
	
	  ▪ Online presence
	
	  ▪ The technology used in communication
		▪ Developments in communication technology have reduced the need for business travel
		
		▪ Rapid developments in technology have reduced the length of product life cycles and increased the need for businesses to carry out ongoing research, development and innovation

Economic	▪ The extent to which **economic indicators** are expected to directly impact business performance including
	
	  ▪ **Inflation**
	
	  ▪ Exchange rates
	
	  ▪ Cost of living
	
	  ▪ The stage of the **Business Cycle** and **GDP** growth
	
	  ▪ **Unemployment** levels
		▪ High rates of fuel and food inflation in parts of Europe have reduced the level of **disposable income** for most households
		
		▪ A historically low unemployment level has made recruitment more challenging for many EU businesses

Environmental	▪ The extent to which changes in **attitudes and government policy** towards environmental protection as well as **the impact of global warming** expected to impact the business including
	
	  ▪ Changing infrastructure – for example in favour of green transportation networks
	
	  ▪ **Energy availability** & cost
		▪ Increased interest in environmentally responsible and ethically-produced goods has created new markets for businesses to exploit
		
		▪ Strict rules on the disposal of commercial waste have increased costs for businesses

	▪ Disposal of materials ▪ Changes in climate and weather patterns ▪ Air quality	

Political	▪ The extent to which **local and national government** is expected to influence the business including
	
	  ▪ Government stability and relationships with key trading partners
	
	  ▪ Tax regulations
	
	  ▪ Trade restrictions
	
	  ▪ Political Ideology and attitude to Business
	
	  ▪ **Fiscal policy**
	
	  ▪ National security status
	
	  ▪ Investment in public services
		▪ The UK's decision to leave the EU in 2016 has led to the **reintroduction of trading restrictions** for British businesses importing goods from suppliers in Europe
		
		▪ The reduced level of threat from terrorism in Ireland has helped to boost tourism

Legal	▪ The extent to which **changes in law and regulations** are expected to impact the business including
	
	  ▪ Taxation
	
	  ▪ Employment
	
	  ▪ Advertising
	
	  ▪ Health & Safety
	
	  ▪ Compliance and 'red tape' created by regulatory bodies such as the **Health and Safety Executive**
		▪ Changes to the level of tax levied on high sugar products (sodas) across Europe has increased selling prices and prompted some businesses to **redevelop their product** to reduce the sugar content
		
		▪ A rise in the level of the minimum wage increases business staffing costs

Ethical	▪ The extent to which moral principles ought to be considered in the decision-making process, for example	▪ Many supermarkets have implemented '**above and beyond**' policies related to the sale of alcohol and tobacco and require

|	- Being **truthful** about products and using **responsible** marketing practices **Paying staff** and **suppliers** on time and in full - Trading **fairly** - Being **accurate and realistic** about financial performance - Avoiding **discrimination**	customers to prove that they are significantly older than the minimum legal age of sale

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Boston Consulting Group (BCG) Matrix

Boston Matrix & the Product Portfolio

- The Boston Consulting Group (BCG) Matrix is a tool used by businesses to **analyse their product portfolio** and make **strategic decisions** about each product

- The matrix classifies products into four categories based on their **market share** and the **market growth rate**

  - Cash Cow

  - Problem Child/Question Mark

  - Star

  - Dog

Diagram: the Boston matrix
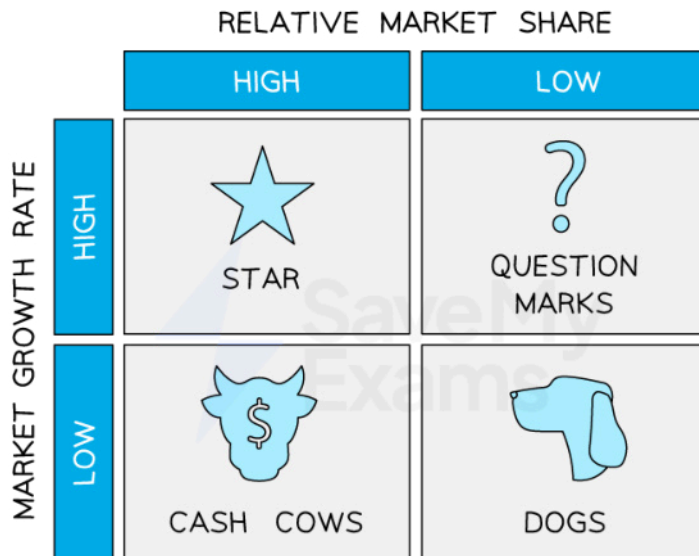
The classification of products in the Boston Matrix according to their market share and the growth rate in the market as a whole

- By categorising products into these categories, businesses can **allocate resources more effectively,** optimise their cash flow and develop marketing strategies that align with the product's potential

The Boston Matrix, Cash Flow and Marketing Strategy

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Product Type	Explanation	Implications
Cash Cow	▪ Cash cows are products with a **high market share in a mature market** (the entire market is no longer growing)	▪ They generate **significant positive cash flow** but have low growth potential ▪ The business invests minimal resources in cash cows as they are seen as stable sources of income ▪ Marketing efforts focus on **maintaining their market share** and profitability ▪ Cash cows are valuable assets and can be used to fund the development of new products
Problem Child/Question Mark	▪ Problem child or question mark products have a **low market share in a high-growth** market ▪ These products have the potential to become stars if the company invests in their development	▪ There is often a **negative cash flow** as businesses usually invest in problem child products to increase their market share and **turn them into stars** ▪ If the investment does not result in growing the business may discontinue the product ▪ Marketing efforts focus on **increasing their market share** and brand recognition
Star	▪ Star products have a **high market share in a high-growth market** ▪ The company typically invests in stars to maintain or increase their market share	▪ They generate **significant positive cash flow** and have the potential for continued growth ▪ Marketing efforts focus on building **brand recognition**, increasing market share, and maintaining profitability ▪ Stars are valuable assets and the business should focus on maximising their potential

Dog	Dog products have a **low market share in a low-growth market**	- They generate **little revenue** for the company and have no growth potential - Businesses often **move away (divest)** from these to focus on more profitable products - Marketing efforts for dog products are minimal or zero

**Your notes**

Business Plan

Business Plan

- A business plan sets out **key aspects of a business** and **how the owners intend it to develop**

- The main aim of producing a business plan is to **reduce the risk** associated with starting a new business and help the owners **raise finance**

  - Producing a business plan forces the owner to think about every aspect of the business **before they start,** which should **reduce the risk** of failure

Diagram: elements of a business plan
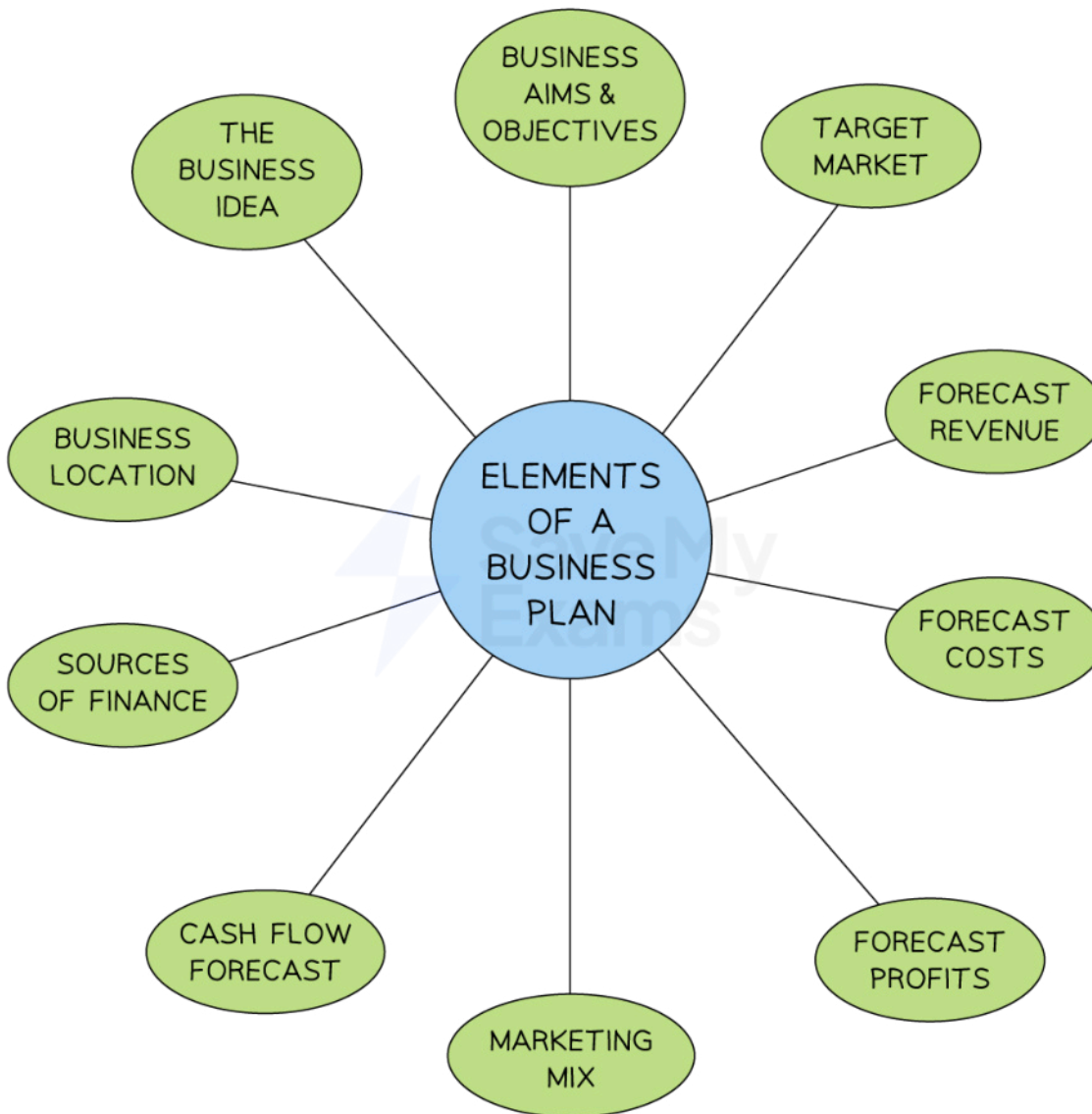
Common Elements of a Business Plan

- Having carried out research to support the plan, the business will be **well-informed about the potential problems and chance of success** and can select the most appropriate **source of finance** based on this information

- A well-written business plan can **help a business obtain finance**

  - Lenders (e.g. banks) and other investors will be able to explore the plan and **make an informed decision** about whether the business is credible and worth the financial risk

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- Investors (e.g. **venture capitalists**) will use the business plan to explore whether there is an opportunity to **increase the value of their investment** and make a worthwhile profit

- The business, having carried out research to support the plan, will be **well-informed about the potential problems and chance of success** and can select the most appropriate source of finance based on this information

- A business plan should be a **regularly-updated working document**

    - As the business grows plans are likely to change as it faces new threats and opportunities

Key Elements in a Business Plan

Element	Explanation
Executive Summary	- This section provides an **overview of the business idea**, its unique selling proposition, target market, and financial projections - It should be **concise** yet compelling enough to grab the reader's attention
Company Description	- A description of the business mission, vision, and values Information about the **legal structure**, location and any unique advantages or intellectual property the business may have
Market Analysis	- A thorough analysis of the target market, including its size, growth potential and key trends - Identification of **target customers** and their needs - A **competitor analysis** to understand their strengths and weaknesses
Products or Services	- A detailed explanation of the **products/services the business will offer**, highlighting their features, benefits and any competitive advantages they may have
Marketing & Sales Strategy	- A description of the intended marketing and sales approach, including marketing channels, **pricing strategy** and promotional tactics - A description of how customers will be attracted and their loyalty captured
Organisation & Management	- An overview of the **organisational structure** of the business and the key members of the team, including their qualifications, experience and responsibilities

Operations & Implementation	▪ A description of how the business will operate on a day-to-day basis, including the **production process**, stock management and any key partnerships or suppliers
Financial Projections	▪ A detailed **financial forecast** for the business, including **projected income statements**, balance sheets and cash flow statements ▪ An outline of funding requirements and any existing or potential sources of finance
Risk Analysis	▪ A consideration of the **potential risks and challenges** the business may face and the intended strategies for mitigating them

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Decision Trees

Decision Tree Diagrams

- A decision tree is a **quantitative method** of tracing the outcomes of a decision so that the most profitable decision can be identified

    - **Research-based estimates** and **probabilities** are used to calculate likely outcomes

    - The **net gain from a decision** can be identified and used to consider whether an investment is worthwhile

- Using decision trees provides **several key advantages** to the decision making process

    - Constructing a decision tree diagram may **reveal options** that haven't previously been considered

    - Managers are forced to **consider the risks** associated with their choice, ahead of implementation

    - The quantitative approach requires **deep research** to be carried out
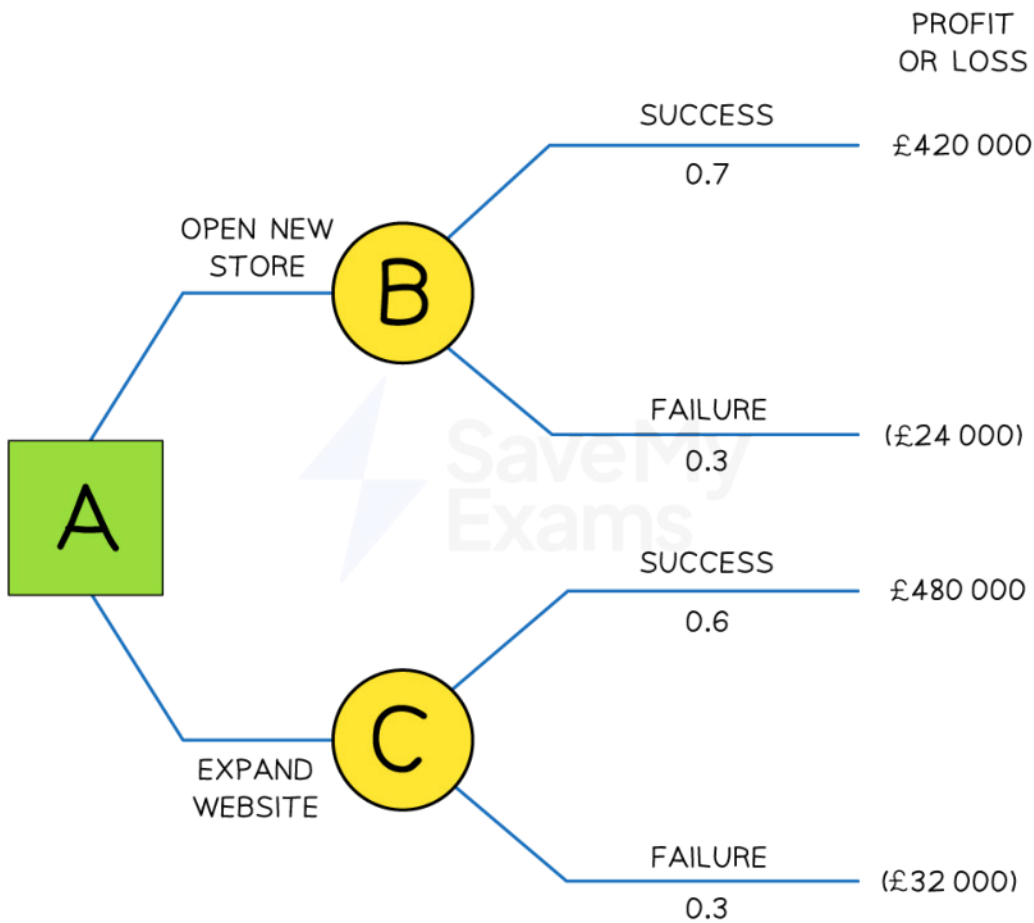
Decision tree diagrams

- The **key elements** in a decision tree diagram are

    - Decision points

    - Outcomes

    - Probabilities

    - Expected monetary values

Diagram: a simple decision tree diagram

Your notes

PROFIT
OR LOSS

SUCCESS
0.7 — £420 000

OPEN NEW STORE — B

FAILURE
0.3 — (£24 000)

A

SUCCESS
0.6 — £480 000

EXPAND WEBSITE — C

FAILURE
0.3 — (£32 000)

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A simple decision tree based on the choice of whether to invest in opening a new store or expand its website

- Points where **decisions** need to be made are called *Decision Points* and are represented by squares

  - Square A represents the fact that a choice is required on opening a new store or expanding the website

- Points where there are different **outcomes** are represented by circles called **nodes**

  - Circles B and C represent points at which the different options have a range of outcomes - success or failure

- The **probability** or likelihood of each outcome is shown on the diagram

  - A certain outcome has a probability of 1

- An impossible outcome has a probability of 0

  - Opening a new store has a 0.7 probability of success and a 0.3 probability of failure

  - Expanding the website has a 0.6 probability of success and a 0.4 probability of failure
- The **monetary value** of each decision is based on the expected profit or loss of the outcome

  - If opening a new store is successful a £420,000 profit is expected

  - If opening a new store is unsuccessful a £24,000 loss is expected

  - If expanding the website is successful a £480,000 profit is expected

  - If expanding the website is unsuccessful a £32,000 loss is expected

Calculating expected monetary values

- To compare the options, a business should take into account the **expected values of each decision** presented in the decision tree diagram

- To calculate the **expected monetary value** of a decision, the following formula is used

  (Expected value of success x Probability) + (Expected value of failure x Probability)

- Using the example above the expected value of opening a new store is

  (£420,000 x 0.7)   +   (–£24,000 x 0.3)

  = £294,000   +   –£7,200

  = £286,800

- Using the example above the expected value of expanding the website is

  (£480,000 x 0.6)   +   (–£32,000 x 0.4)

  = £288,000   +   –£12,800

  = £275,200

- As the expected value of opening a new store is higher at £286,800, than that of expanding the website at £275,200, based purely on financial terms, the business **should choose the option to open a new store**

Variations in the decision tree diagram

- In some cases, the decision tree diagram **provides expected revenues rather than profit or loss** for the range of outcomes

- In these diagrams, **the costs related to each outcome are also provided**

- To calculate the expected value of each outcome, **costs must be deducted from expected revenues**

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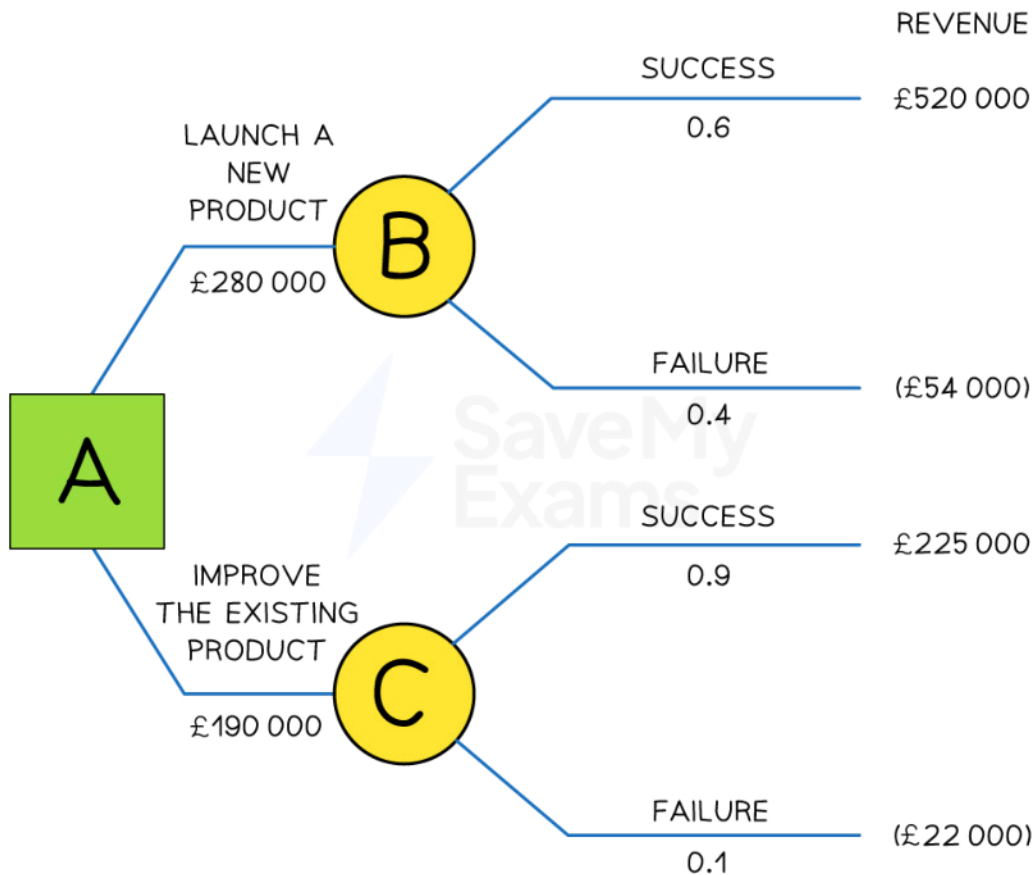
A decision tree based on a decision whether to launch a new product or improve an existing product

Explanation

- To calculate the **expected monetary value** of a decision, revenues and costs are included in the diagram

  (Expected value of success x Probability) + (Expected value of failure x Probability) – Cost

- The expected value of launching a new product is

  (£520,000 x 0.6) + (–£54,000 x 0.4) – £280,000

  = £312,000 + –£21,600 – £280,000

  = £290,400 – £280,000

  = £ 10,400

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- The expected value of improving the existing product is

$$(£225,000 \times 0.9) \; + \; (-£22,000 \times 0.1) \; - \; £190,000$$

$$= £202,500 \; + \; -£2,200 \; - \; £190,000$$

$$= £200,300 \; - \; £190,000$$

$$= £ \; 10,300$$

- As the expected value of launching a new product is marginally higher at £10,400 than that of improving the existing product at £10,300, the business should choose the option to launch a new product

- In this case the decision tree has demonstrated that there is **little between the two options** and the business should **look at other factors** that may inform their decision

Worked Example

Caramelac is a lactose-free chocolate product manufactured by a large multinational confectionery business. In recent years increased competition from other well-known brands has started to impact on sales of the product and managers are determined to maintain *Caramelac's* market share.

Market research has shown that the business has two options:

a) Redevelop the product
b) Create a new advertising campaign

The expected outcomes and the probabilities of success and failure are shown in the decision tree below

PROFIT OR LOSS

REDEVELOP THE PRODUCT — B

SUCCESS 0.5 — £840 000

FAILURE 0.5 — (£84 000)

A

ADVERTISING CAMPAIGN — C

SUCCESS 0.6 — £660 000

FAILURE 0.4 — (£76 000)

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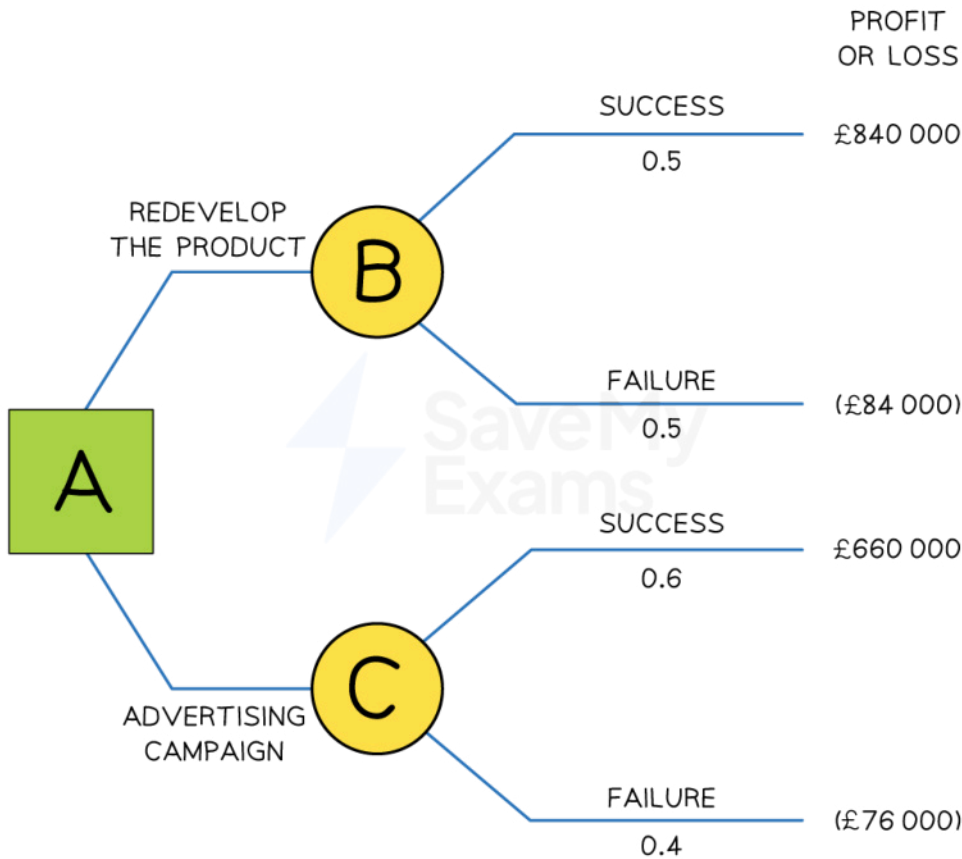
Calculate the expected values of each option and decide, on financial grounds, which option the *Caramelac's* brand managers should choose.   (6 marks)

Answer:

Step 1 – Calculate the expected value of redeveloping the product

$$(£840,000 \times 0.5) \quad + \quad (-£84,000 \times 0.5)$$

$$= £420,000 \quad + \quad -£42,000$$

$$= £378,000 \qquad \textbf{(2 marks)}$$

Step 2 – Calculate the expected value of the advertising campaign

$$(£660,000 \times 0.6) + (-£76,000 \times 0.4)$$

$$= £396,000 + -£30,400$$

$$= £365,600 \qquad \textbf{(2 marks)}$$

Step 3 – Interpret the outcomes and make a decision

As the expected value of redeveloping the product is higher at £378,000 than that of the advertising campaign at £365,600 **(1 mark**), the business should choose the option to redevelop the product **(1 mark).**

💡

Examiner Tips and Tricks

Expected values are not the same thing as profit or revenues generated by a choice. In the above example, launching a new product is expected to either generate a positive revenue figure of £520,000 or generate a negative revenue figure of £54,000. It is never forecast that a revenue figure of £200,300 will be achieved. This is purely a figure used in making the choice between this option and the alternative and does not represent the actual amount of revenue that is expected to be achieved.

Limitations of Using Decision Trees

- Constructing decision trees that can support effective decision-making **requires skill** to avoid bias and takes **significant amounts of time to gather reliable data**

- A decision tree is **constructed using estimates** which rarely take full account of **external factors** and **cannot include all possible eventualities**

- **Qualitative elements** such as human resource impacts are not considered, which may **affect the probability of success** of a decision

- The **time lag** between the construction of a decision tree diagram and the implementation of the decision is likely to further affect the **reliability of the expected values**

Descriptive Statistics

Your notes

Mean, Median & Mode

- Simple statistical analysis may include calculating the **average** of a given set of numerical data, using one of three methods

  - The **mean** is commonly considered the true average – where all the numbers in a data set are added and then divided by the number of numbers

  - The **median** is the middle value in the list of numbers

  - The **mode** is the value that occurs most often in a set of data

Worked Example

RapidKleen kept a record of mobile vehicle valets carried out each day during a busy holiday period.

Find the mean, median, mode, and range of mobile valets during the period using the following data:

Day	1	2	3	4	5	6	7
No. of valets sold	14	10	12	12	14	15	14

[6 marks]

Answer:

Step 1: To calculate the mean, first add together each of the values

$$14 + 10 + 12 + 12 + 14 + 15 + 14 = 91$$

Step 2: Divide the total by the number of values

$$91 \div 7 = 13 \text{ [2 marks]}$$

- Note that the mean in this case **isn't a value from the original data set**
- This is a common result – you should not assume that your mean will be one of your original numbers and you should not be surprised when it isn't

Step 3: To calculate the median first rewrite the data set in numerical order

$$10, 12, 12, 14, 14, 14, 15$$

Step 4: Identify the middle number

- There are seven numbers in the list, so the middle one will be the (7 + 1) ÷ 2 = 8 ÷ 2 = 4th number:

  10, 12, 12, **14**, 14, 14, 15

  So the median is **14** [2 marks]

- Note: The formula for the place to find the median is "([the number of data points] + 1) ÷ 2", but **you don't have to use this formula**

  - You can just count in from both ends of the list until you meet in the middle if you prefer, especially if the data set is small

Step 5: To calculate the mode rewrite the data set in numerical order

10, 12, 12, 14, 14, 14, 15

Step 6: Identify the number that occurs most often in the list

14 occurs three times

14 occurs x3

12 appears x2

10 appears x1

15 appears x1

As it appears most frequently, the mode number of valets sold is **14** [2 marks]

Standard deviation

- The standard deviation is a measure of the **spread of numbers** within a set of data

- It is a particularly useful **tool for planning** when managers have wide ranges of data and need to organise resources effectively

Worked Example

FreshBite is a pre-packaged sandwich manufacturer which produces a range of products that are sold in cafés and refreshment stands in tourist attractions such as theme parks.

Freshbite's sales are highly variable - the business regularly suffers from high levels of wastage as a result of having large quantities of unsold stock. On several occasions it has also been unable to fulfil orders from customers as it has not produced enough units.

The business has recently employed a new operations manager who has suggested that calculating the standard deviation of sales would aid planning. He has requested the last month's sales data to allow him to calculate this.

Product	Last month's sales ($)
A	110,000
B	27,000
C	12,000
D	54,000
E	7,000

Calculate the standard deviation of last months' sales for Freshbite.

[4 marks]

Answer:

Step 1: Calculate the mean

$$110,000 + 27,000 + 12,000 + 54,000 + 6,000 = 210,000$$

$$210,000 \div 5 = 42,000 \text{ [1 mark]}$$

Step 2: For each product, subtract the mean and square the result

Product	Last month's sales ($000s)	Minus mean =	Squared = (000's)
A	110	68	4,624
B	27	–15	225
C	12	–30	900
D	54	12	144
E	7	–35	1,225

[1 mark]

Step 3: Add up the squared differences and express in an expanded form

$$4,624 + 225 + 900 + 144 + 1,225 = 7,118$$

$$= 7,118,000 \text{ [1 mark]}$$

Step 4: Find the square root to identify the standard deviation

$$\sqrt{7,118,000} \;=\; \$\,2667.96 \;[\text{1 mark}]$$

Note – in this instance, a **significant standard deviation from the mean** informs *Freshbite*'s managers that they need to carefully plan for significant variations in sales. This may include detailed market research as well as capital investment to reduce wastage (for example, further freezers).

Your notes

Quartiles

Quartiles

- Quartiles are the values that **divide a list of numbers into quarters**

- Analysis of data using quartiles allows a business to see the **distribution and spread of data**

  - The **first quartile** is the lower 25% of a list of numbers

  - The **second quartile** is the lower 50% of a list of numbers

  - The **third quartile** is the lower 75% of a list of numbers

  - The **top quartile** is the highest 25% of a list of numbers

  - The **interquartile range** excludes outlying data in the top and bottom quartiles and examines the middle spread of data

The Application of Quartile Ranges to a set of data

First Quartile							
Second Quartile							
Third Quartile							
						Top Quartile	
		Interquartile Range					
3	3.5	4.5	5	6	6.5	7.5	8

Worked Example

BestGrip is shoe manufacturing business that employs a team of sales managers who receive performance-related monthly bonuses on top of their monthly salaries.

Bonuses are awarded to those sales managers who achieve sales in the top quartile.

Sales data for the month of May are shown in the table below.

Salesperson	Volume of Sales
A	24,300
B	25,350
C	26,650
D	22,100
E	26,200
F	27,800
G	22,950
H	28,450
I	23,750
J	29,200
K	27,350
L	27,900

Identify the sales managers to be awarded a bonus in May.

[4 marks]

Answer:

Step 1: Put the list of data into order, from smallest to largest

Salesperson	Volume of Sales
D	22,100
G	22,950
I	23,750

A	24,300
B	25,350
E	26,200
C	26,650
K	27,350
F	27,800
L	27,900
H	28,450
J	29,200

[2 marks]

Step 2: Divide the list into four equal parts:

Salesperson	Volume of Sales	
D	22,100	Quartile 1
G	22,950	
I	23,750	
A	24,300	Quartile 2
B	25,350	
E	26,200	
C	26,650	Quartile 3
K	27,350	
F	27,800	
L	27,900	Quartile 4
H	28,450	
J	29,200	

[1 mark]

Step 3: Identify the data within the top quartile

- In this case, sales managers **L, H and J** will receive a performance-related bonus in May [1 mark]
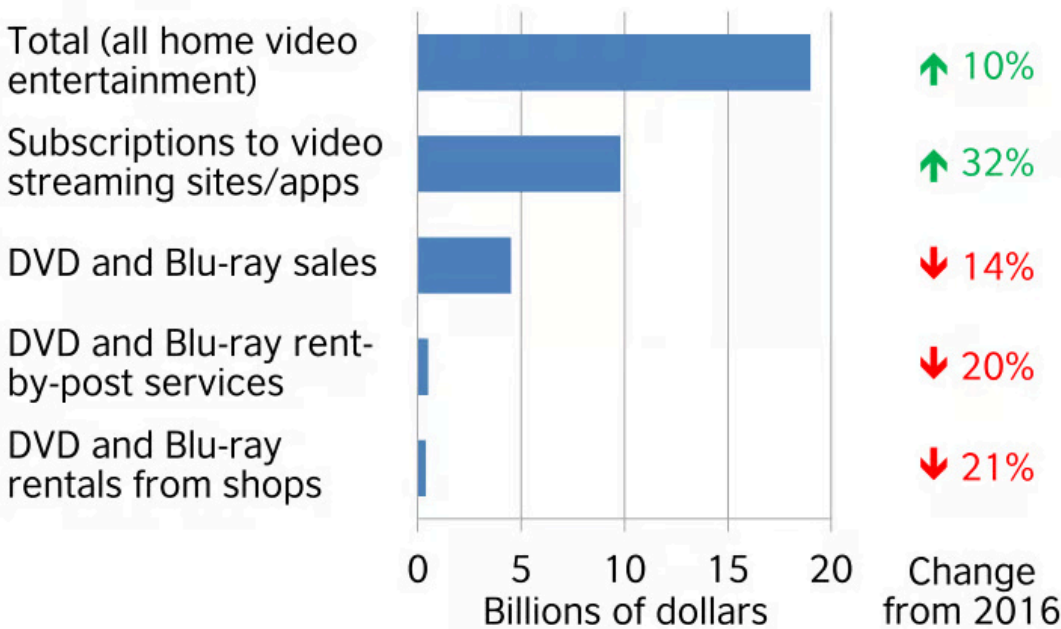
Graphs & Charts

- Analysis of data contained in graphs and charts and the communication of complex data in these forms are important business skills

- Data may be presented in a range of forms

1. Bar charts

- **Bar charts** show data that are independent of each other such as sales per store

Consumer spending on home video entertainment (selected categories: USA, 2017)

Category	Billions of dollars	Change from 2016
Total (all home video entertainment)	~19	↑ 10%
Subscriptions to video streaming sites/apps	~10	↑ 32%
DVD and Blu-ray sales	~4.5	↓ 14%
DVD and Blu-ray rent-by-post services	~0.5	↓ 20%
DVD and Blu-ray rentals from shops	~0.5	↓ 21%

An example of a bar chart showing sales revenue of a selection of home video entertainment formats in the USA in 2017
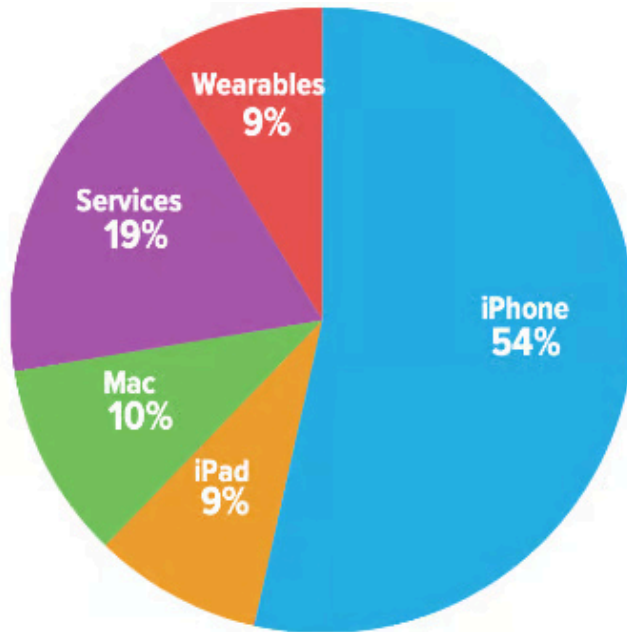
(Source: British Council)

2. Pie charts

Your notes

- **Pie charts** show how a whole is divided into different elements such as total sales divided amongst different product types

An example of a pie chart showing Apple's quarterly revenue by category in April 2021

(Source: Six Colours)

3. Infographics

- **Infographics** are easy to understand visual representations of data

An example of an infographic used by Mars to communicate key business statistics
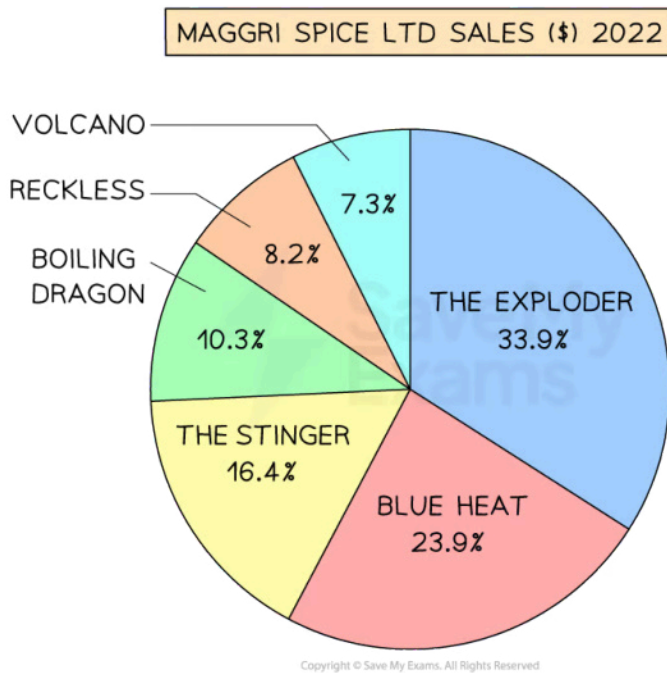
(Source: Mars)

Worked Example

Maggri Spice Ltd manufactures a range of hot curry pastes that are sold online and in specialist stores.

In 2022 total sales were $180,000, with sales for individual products shown in the pie chart below.

Your notes

MAGGRI SPICE LTD SALES ($) 2022

Calculate the value of sales of Blue Heat curry paste in 2022.

[2 marks]

Answer:

Step 1: Identify the percentage of total sales attributed to Blue Heat

In this case, **23.9%** of total sales can be attributed to Blue Heat

Step 2: Convert the percentage to a decimal

23.9% = 0.239 [1 mark]

Step 3 – Multiply total sales by the decimal

$180,000 x 0.239 = $43,020

Blue Heat curry paste achieved sales of $43,020 in 2022 [1 mark]

Examiner Tips and Tricks

You can make use of descriptive statistical techniques throughout both exam papers.

They are particularly useful when **making comparisons** or **supporting chains of analysis** to lead to a **judgement**. You do not have to wait to be told to use them in your work – **become accustomed to applying them** to data in your work as you move through the course.

Interpreting data using these tools is a higher level approach to **application** and demonstrates that you are making optimum use of data presented in case study materials – this really does impress the examiner!

Your notes

Your notes

Circular Business Models

- A circular business model is an approach to business designed to **minimise the consumption of scarce resources** and **reduce waste** whilst **maximising the use and value of resources**

  - Materials and products are recycled, reused, or regenerated rather than being disposed of after use

  - A circular business model is also known as the **cradle-to-cradle** approach

- In a circular business model, products are designed with **durability, reparability, and recyclability** in mind

  - The focus is on creating products that can be easily disassembled and their components reused or recycled

  - This **promotes the use of renewable resources**, reduces dependence on finite resources and minimises a businesses environmental impact

- Adopting a circular business model requires a **shift in mindset** including

  - **Involving multiple stakeholders** including businesses, governments, consumers and investors

  - **Rethinking business processes,** product design, supply chains, and waste management practice

Key Principles of a Circular Business Model

Principle	Explanation
Design for longevity	- Products are designed to have a longer lifespan reducing the need for **frequent replacement**
Resource efficiency	- Resources are used efficiently throughout the product lifecycle, **minimising waste** and optimising material usage
Recycling & reuse	- Materials from products that have reached the end of their life cycle are recycled or reused to **create new products or components**
Product as a service	- Instead of selling products, businesses provide them as services, such as leasing or renting, **encouraging product sharing** and extending their lifespan

Biomimicry	■ Nature-inspired design principles are used to create products and processes **that mimic natural systems** resulting in greater sustainability
Collaboration & partnerships	■ Businesses collaborate with suppliers, customers and other stakeholders to **create closed-loop systems** and promote the exchange of materials and knowledge

- **Advantages** of a circular business model include

  - reduced waste generation

  - decreased reliance on finite natural resources

  - cost savings through resource efficiency

  - enhanced brand reputation

  - increased resilience to resource scarcity and price volatility

Patagonia: an example of a circular business

- One example of a business with a circular business model is outdoor clothing company *Patagonia* which has implemented several initiatives to **promote sustainability** and **reduce waste**

- Its circular business model focuses on **extending the life of products, promoting repair and reuse, using recycled materials** and **encouraging responsible consumption**

  - The "Worn Wear" program encourages customers to **repair and reuse their clothing** instead of buying new items

    - The business offers free repairs for their products and also **sells used clothing through their online platform**, extending the lifespan of their products and reducing the overall demand for new clothing

- Patagonia has made efforts to **use recycled and environmentally friendly materials** in their products

  - E.g. they have introduced a line of clothing made from recycled plastic bottles and recycled polyester and use organic cotton to minimise the environmental impact of their manufacturing processes

- Patagonia encourages responsible consumption by **actively discouraging customers from purchasing products they don't need**

  - E.g. advertising campaigns with slogans like **"Don't buy this jacket"** raise awareness about the environmental consequences of excessive consumption