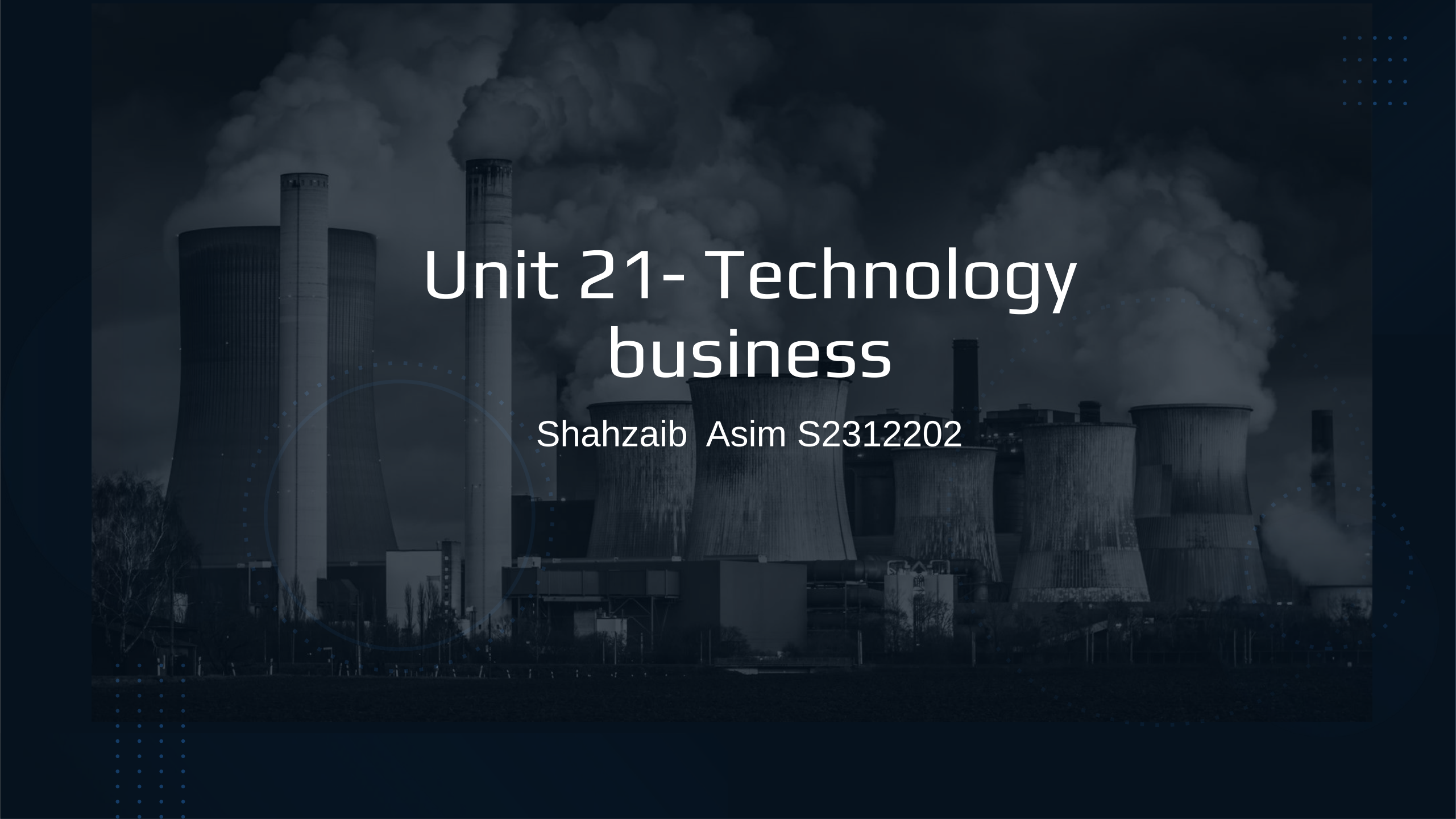




Unit 21- Technology business

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Breakeven Analysis

Breakeven analysis shows the level of output or sales needed for a business to cover all its costs.

Key parts of breakeven analysis

Fixed costs – costs that do not change with output (e.g. rent, salaries, marketing)

Variable costs – costs that change with output (e.g. components, packaging)

Revenue – money earned from sales

Contribution – selling price minus variable cost

Breakeven point – the number of units needed to cover all costs





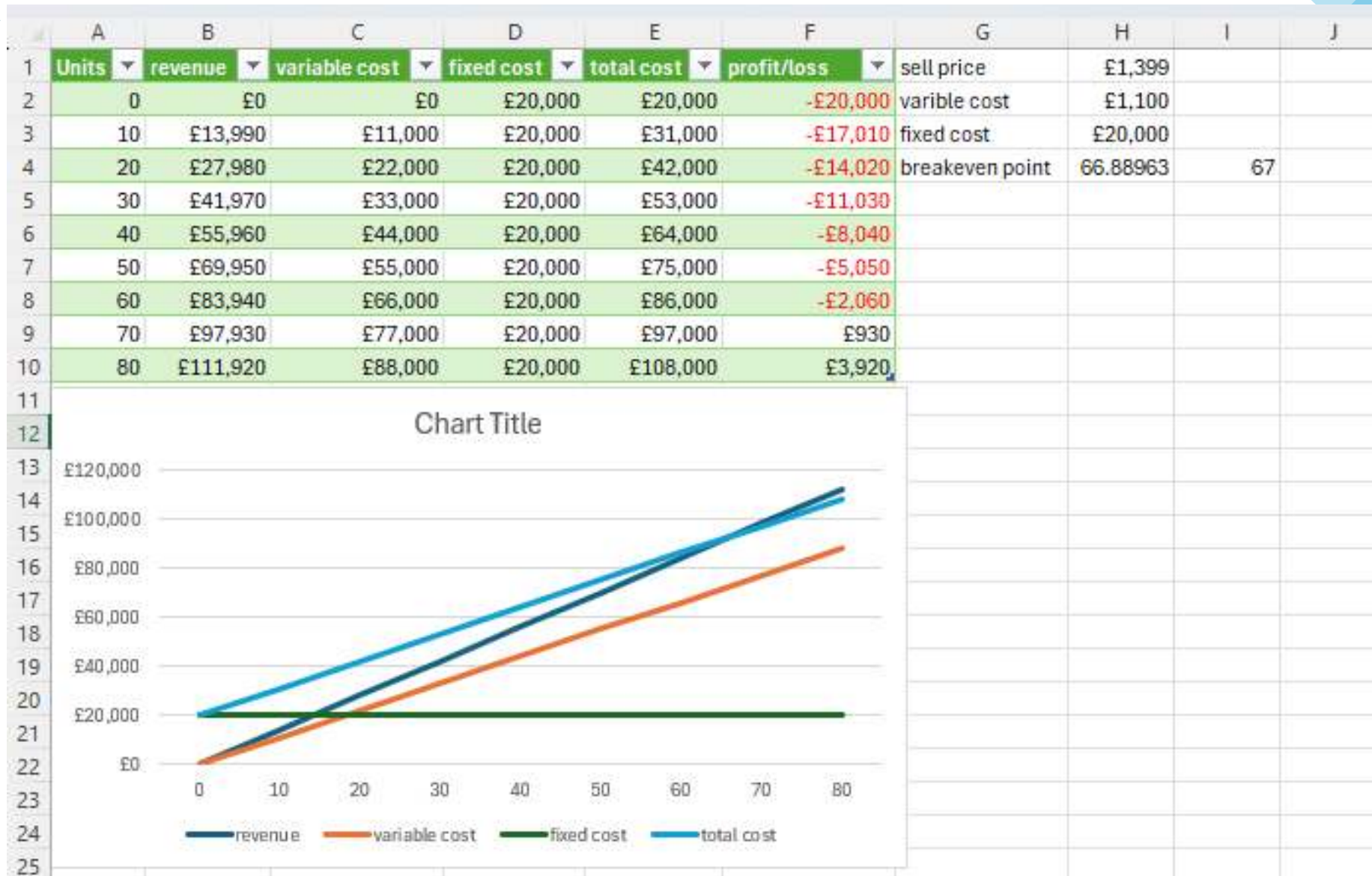
Purpose

- My Company has carried out a breakeven analysis for the iPhone 18 Pro Max to check if the product is profitable and to calculate the minimum number of units that must be sold to cover all costs.

To produce a breakeven analysis My company has made the following assumptions

Components	Value/costs	Description
Selling price per unit	£1,399	Competitive price compared with other premium smartphones
Variable cost per unit	£1,100	Includes components (£1,000) + packaging (£50) + distribution (£50)
Fixed costs per month	£20,000	Includes research, factories, staff salaries, marketing, software
Expected monthly sales	200 units	Market research survey
Maximum production capacity	600 Units	Manufacturing capacity

Item	Amount
Total revenue (200 units)	£279,800
Total variable cost	£220,000
Fixed costs	£20,000
Total cost	£240,000
Profit	£39,800
Breakeven point	67 units
Margin of safety	133 units



Scenario A – Selling Price Drops to £1,299

New contribution per unit:

$$£1,299 - £1,100 = £199$$

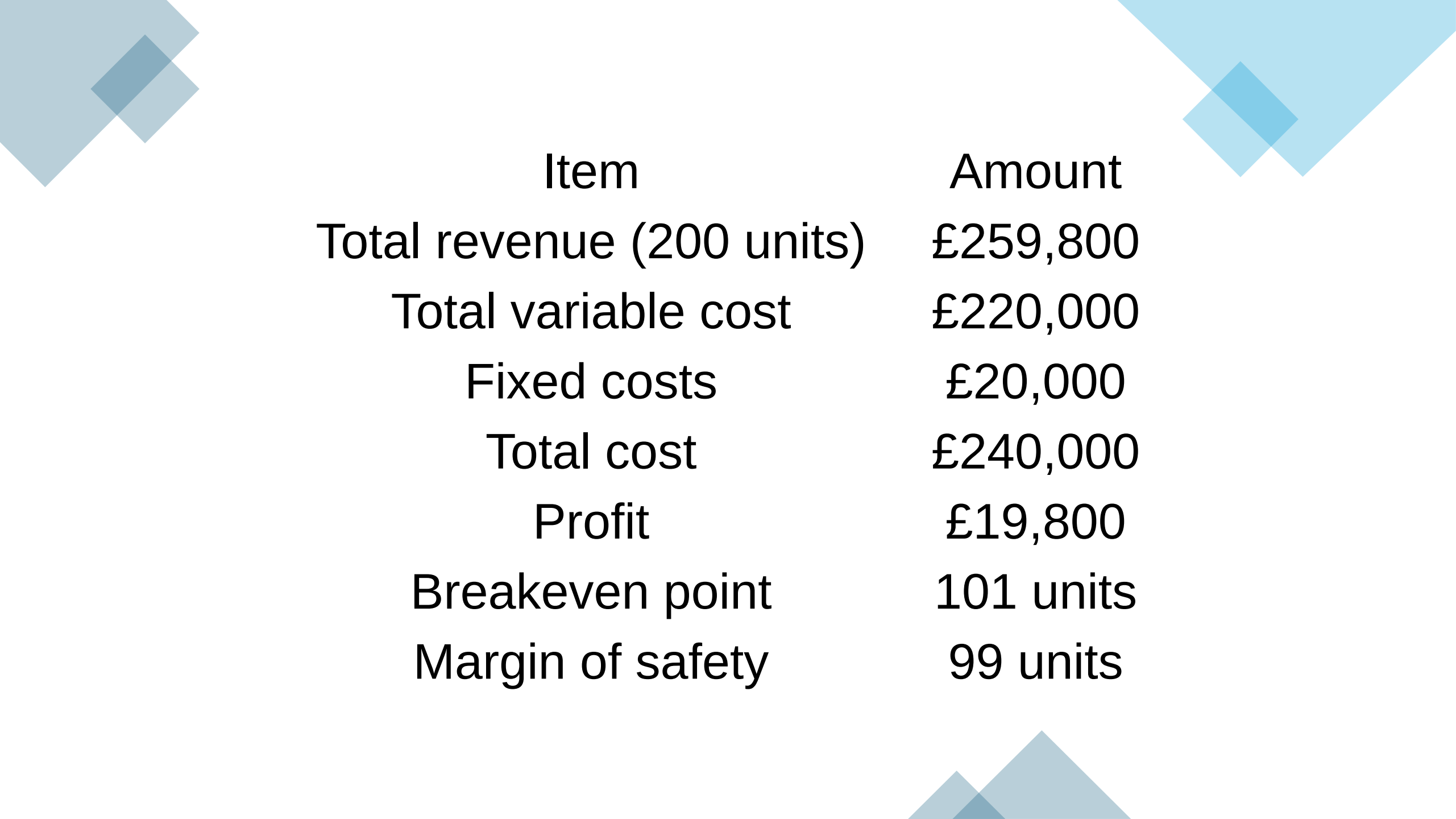
New breakeven:

$$£20,000 \div £199 = 100.50 \rightarrow 101 \text{ units}$$

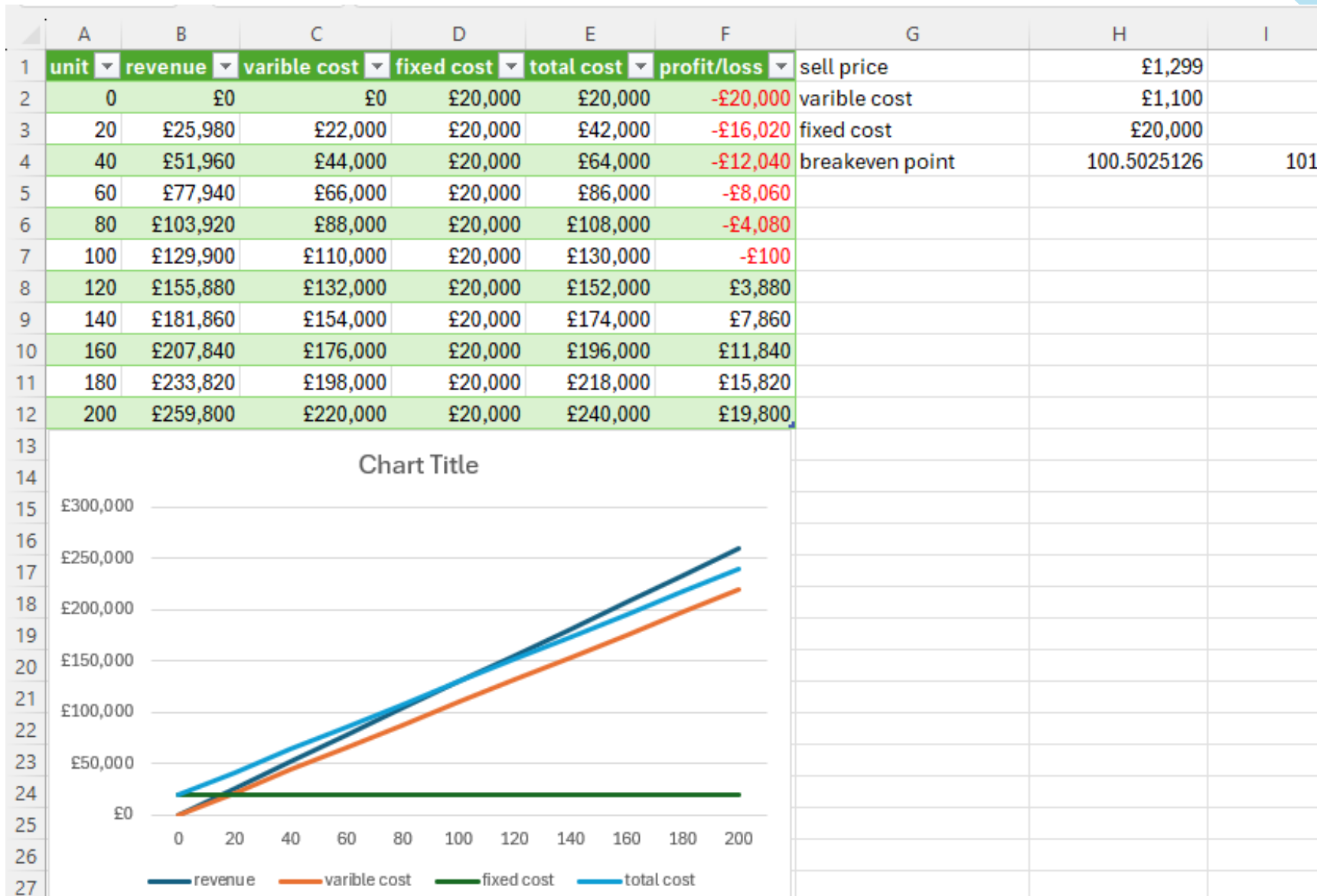
Breakeven increases from 67 $\rightarrow$ 101 units

Business becomes riskier because it must sell more units to break even.

Components	Value/costs	Description
Selling price per unit	£1,299	Competitive price compared with other premium smartphones
Variable cost per unit	£1,100	Includes components (£1,000) + packaging (£50) + distribution (£50)
Fixed costs per month	£20,000	Includes research, factories, staff salaries, marketing, software
Expected monthly sales	200 units	Market research survey
Maximum production capacity	600 Units	Manufacturing capacity



Item	Amount
Total revenue (200 units)	£259,800
Total variable cost	£220,000
Fixed costs	£20,000
Total cost	£240,000
Profit	£19,800
Breakeven point	101 units
Margin of safety	99 units



Scenario B – Variable Costs Increase to £1,150

New contribution per unit:

$$\text{£1,399} - \text{£1,150} = \text{£249}$$

New breakeven:

$$\text{£20,000} \div \text{£249} = 80.32 \rightarrow 81 \text{ units}$$

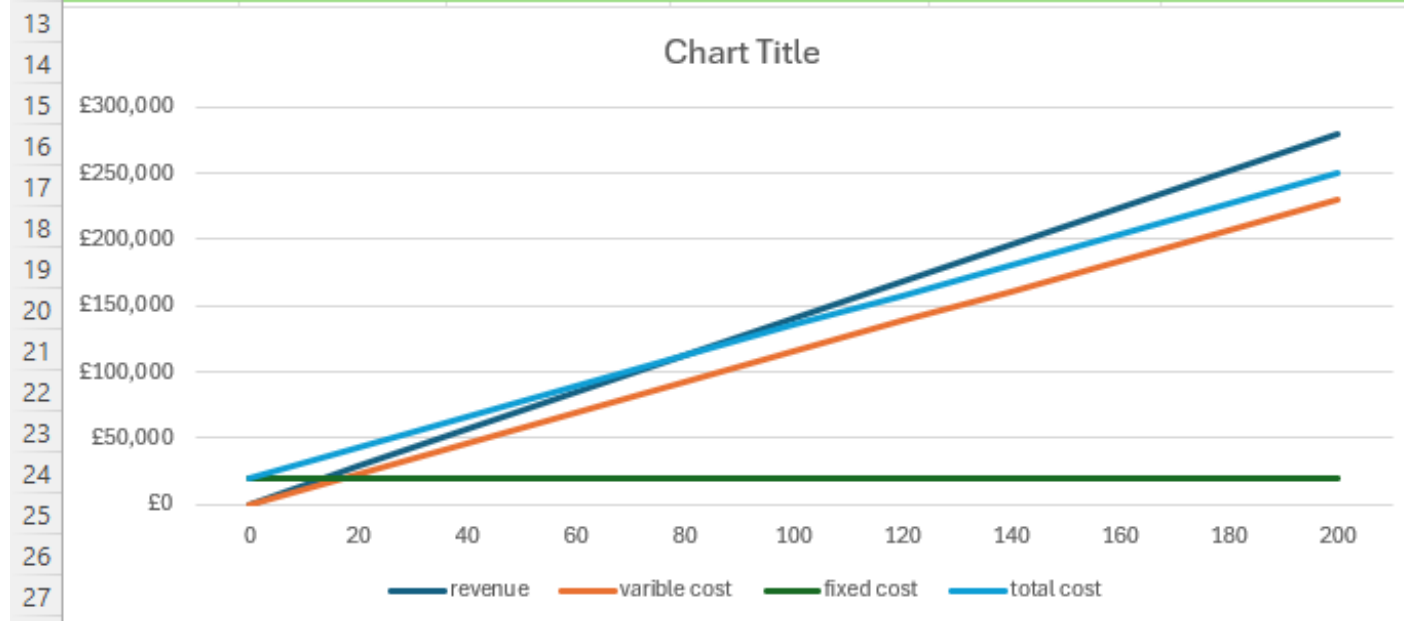
Breakeven increases from 67 → 81 units

Profit becomes smaller.

Components	Value/costs	Description
Selling price per unit	£1,399	Competitive price compared with other premium smartphones
Variable cost per unit	£1,150	Includes components (£1,000) + packaging (£50) + distribution (£50) + Tax (£50)
Fixed costs per month	£20,000	Includes research, factories, staff salaries, marketing, software
Expected monthly sales	200 units	Market research survey
Maximum production capacity	600 Units	Manufacturing capacity

ITEM		AMOUNT
Total revenue (200 units)		£279,800
Total variable cost		£230,000
Fixed costs		£20,000
Total cost		£250,000
Profit		£29,800
Breakeven point		81 units
Margin of safety		119 units

	A	B	C	D	E	F	G	H	I
1	unit	revenue	variable cost	fixed cost	total cost	profit/loss	sell price	£1,399	
2	0	£0	£0	£20,000	£20,000	£-20,000	variable cost	£1,150	
3	20	£27,980	£23,000	£20,000	£43,000	£-15,020	fixed cost	£20,000	
4	40	£55,960	£46,000	£20,000	£66,000	£-10,040	breakeven point	80.32128514	81
5	60	£83,940	£69,000	£20,000	£89,000	£-5,060			
6	80	£111,920	£92,000	£20,000	£112,000	£-80			
7	100	£139,900	£115,000	£20,000	£135,000	£4,900			
8	120	£167,880	£138,000	£20,000	£158,000	£9,880			
9	140	£195,860	£161,000	£20,000	£181,000	£14,860			
10	160	£223,840	£184,000	£20,000	£204,000	£19,840			
11	180	£251,820	£207,000	£20,000	£227,000	£24,820			
12	200	£279,800	£230,000	£20,000	£250,000	£29,800			



Scenario C – Fixed Costs Increase to £30,000

Breakeven:

$£30,000 \div £299 = 100.33 \rightarrow 101$ units

Breakeven increases from 67 $\rightarrow$ 101 units

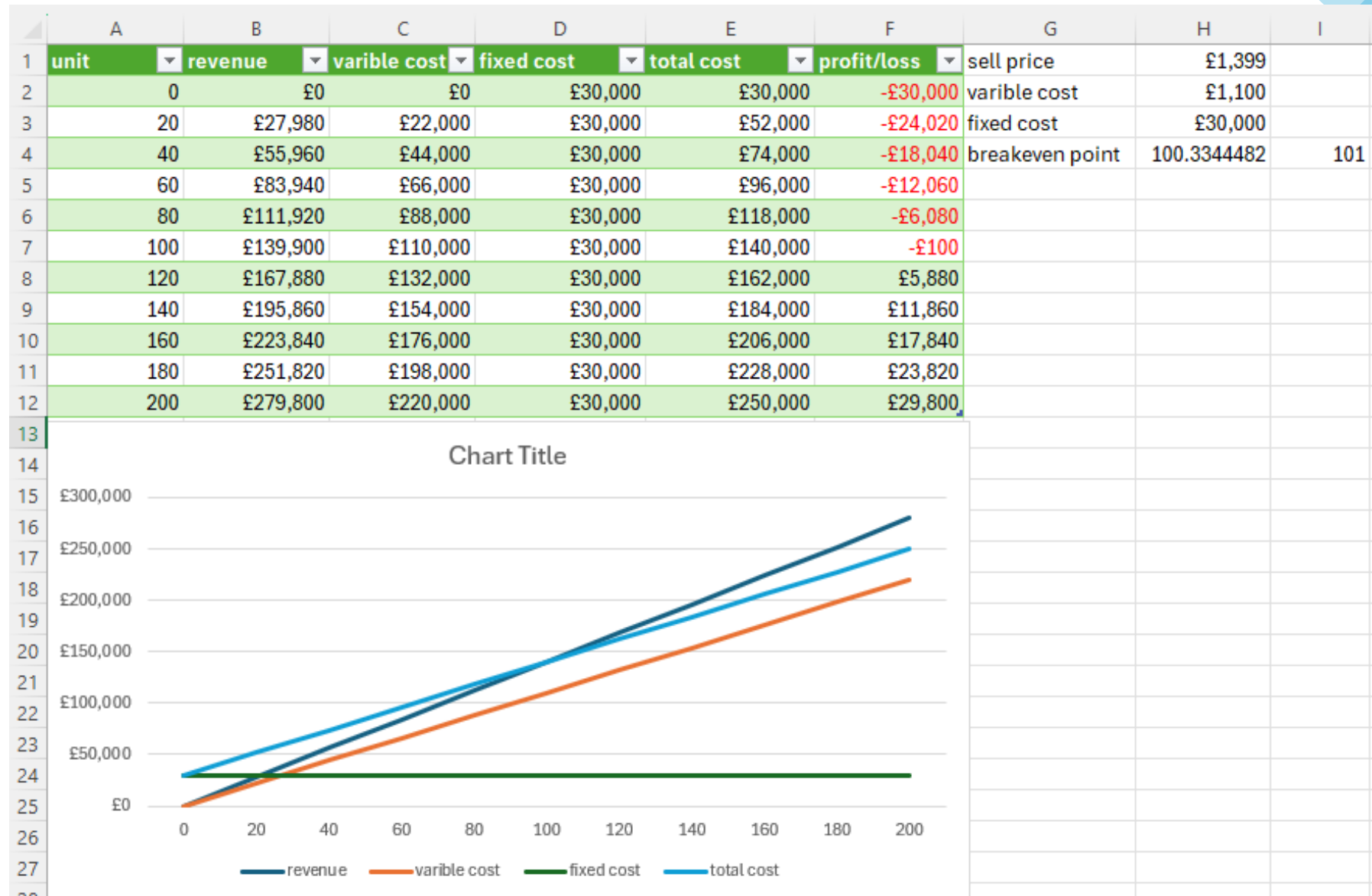
Business must sell more units to cover costs.

Components	Value/costs	Description
Selling price per unit	£1,399	Competitive price compared with other premium smartphones
Variable cost per unit	£1,100	Includes components (£1,000) + packaging (£50) + distribution (£50)
Fixed costs per month	£30,000	Includes research, factories, staff salaries, marketing, software
Expected monthly sales	200 units	Market research survey
Maximum production capacity	600 Units	Manufacturing capacity



Item	Amount
Total revenue (200 units)	£279,800
Total variable cost	£220,000
Fixed costs	£30,000
Total cost	£250,000
Profit	£29,800
Breakeven point	101 units
Margin of safety	133 units





Pricing Strategy

- Shows that lower price increases breakeven
- Helps decide if discounts are safe

Cost Control

- Shows if variable or fixed costs are too high
- Helps choose cheaper suppliers

Sales Targets

- Helps set a minimum target: 67 units per month

Risk Assessment

- Margin of safety is 133 units, so risk is low
- If sales fall below 67 units, my company will make a loss

Planning and Forecasting

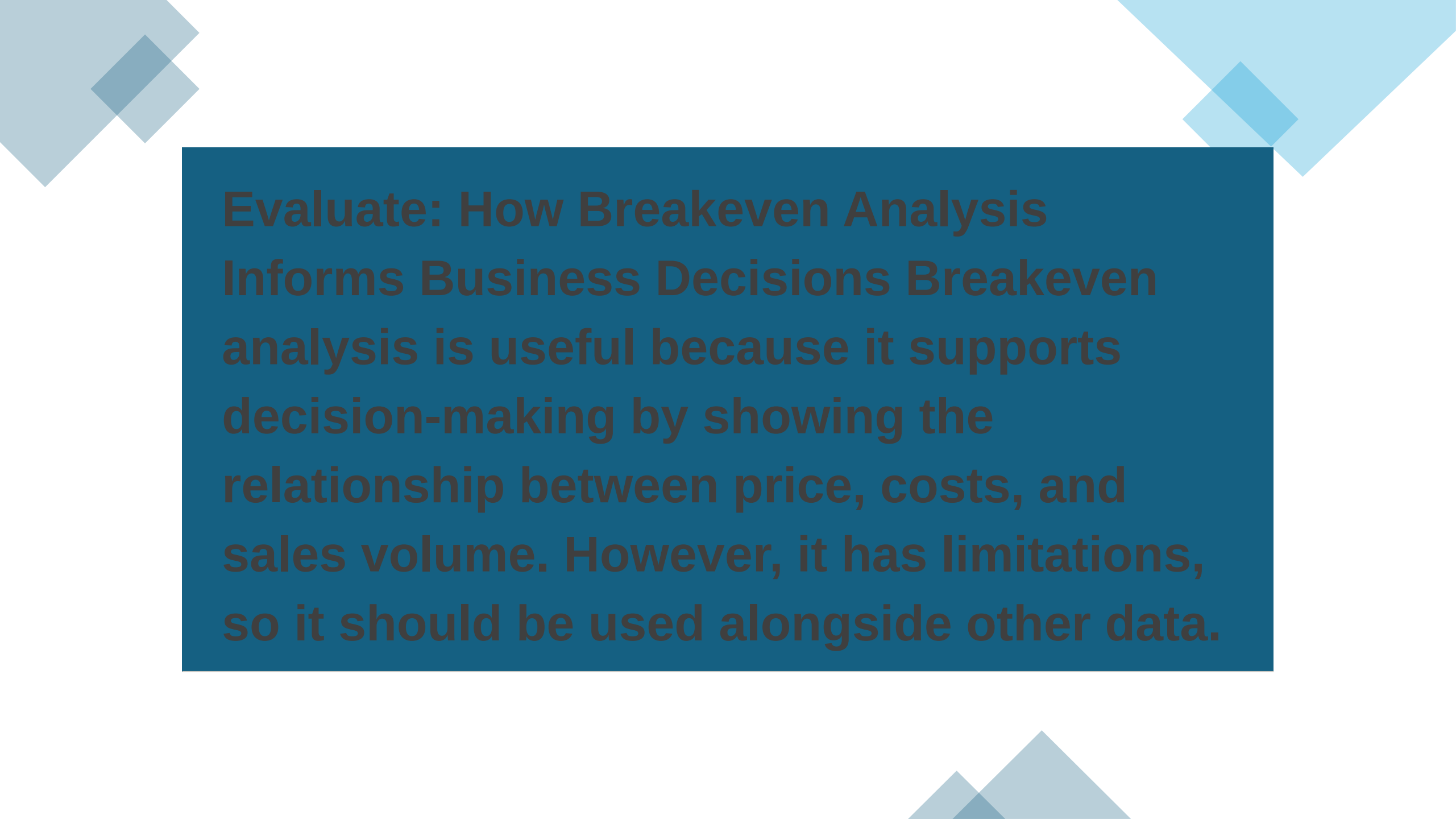
- **Helps plan production levels and monthly budgets**

Investor Confidence

- **Shows the business understands costs and profit clearly**

Conclusion

This breakeven analysis shows My company must sell at least 67 units of iPhone 18 Pro Max each month to avoid losses. With expected sales of 200 units, my company is likely to make £39,800 profit per month. The margin of safety is 133 units, which shows low financial risk and good profit potential.

The slide features a central dark blue rectangle containing white text. The corners of the slide are decorated with overlapping geometric shapes in various shades of blue and grey. The text is centered within the rectangle and reads:

**Evaluate: How Breakeven Analysis
Informs Business Decisions Breakeven
analysis is useful because it supports
decision-making by showing the
relationship between price, costs, and
sales volume. However, it has limitations,
so it should be used alongside other data.**

HOW IT INFORMS DECISIONS

1) Pricing decisions

Breakeven analysis shows how price changes affect contribution and risk. For example, when price falls from £1,399 to £1,299, the breakeven point increases from 67 to 101 units, which reduces profit and increases risk. This helps My Company decide whether discounts are financially safe.

2) Cost control and supplier decisions

By separating costs into variable and fixed, the business can identify which cost increases harm profitability most. Scenario B shows that a rise in variable costs increases breakeven and reduces profit, so My Company may negotiate supplier contracts or redesign components to lower unit costs.

3) Sales targets and performance monitoring

The breakeven point provides a clear minimum target. My Company knows it must sell at least 67 units in the base case. This can be used to set realistic monthly targets and track performance.

4) Risk assessment and planning

Margin of safety helps measure risk. In the base case the margin of safety is 133 units, showing low risk. In Scenario A/C it falls to 99 units, showing higher risk. This supports decisions such as improving marketing, increasing capacity utilisation, or avoiding unnecessary fixed costs.

5) Investment and budgeting decisions

Breakeven analysis helps plan budgets and justify spending. If fixed costs increase Scenario C, breakeven rises sharply. This helps My Company decide whether higher marketing or factory costs are worth it.

Limitations balanced evaluation

- **It assumes selling price and costs stay constant, but costs e.g., components and tax may change.**
- **It assumes all units produced are sold, but demand can fluctuate.**
- **It does not consider competitor actions, economic conditions, or sudden changes in technology.**

Overall judgement

Overall, breakeven analysis is an effective planning tool because it shows the minimum sales required to avoid losses and allows My Company to test “what-if” scenarios. However, My Company should combine breakeven analysis with market research, competitor analysis, and cash-flow forecasting to make the most accurate decisions.

Reference

- I copy my all calculation and paste on ChatGPT, and it tell me my mistake and then I write "Rewrite it in simpler GCSE / BTEC language and Turn this into a perfect Grade A / Distinction version" <https://chatgpt.com/c/6985d389-3aac-8392-a25d-8bd181f64dc6> (Accessed: 3 February 2026).



Rewrite it in
simpler GCSE /
BTEC language
and Turn this
into a perfect
Grade A /
Distinction
version

Breakeven Analysis – iPhone 18 Pro Max

My company has used breakeven analysis to assess the financial viability of producing and selling the iPhone 18 Pro Max. Breakeven analysis helps a business identify the level of output at which total revenue equals total costs, meaning the business makes neither a profit nor a loss.

Cost and Revenue Assumptions

My company assumes that the selling price of the iPhone 18 Pro Max will be £1,399 per unit, which reflects its premium brand positioning and is competitive within the smartphone market. The variable cost per unit is £1,100, including components, packaging, and distribution. My company also incurs fixed costs of £20,000 per month, which include research and development, factory costs, staff salaries, marketing, and software. Market research suggests expected monthly sales of 200 units, while maximum production capacity is 600 units.

Calculations and Analysis

The total variable cost for producing 200 units is calculated by multiplying the variable cost per unit by the number of units:

$$£1,100 \times 200 = £220,000$$

Total costs are then calculated by adding fixed costs to variable costs:

$$£220,000 + £20,000 = £240,000$$

Revenue is calculated by multiplying the selling price by the sales volume:

$$200 \times £1,399 = £279,800$$

Profit is calculated by subtracting total costs from total revenue:

$$£279,800 - £240,000 = £39,800$$

This shows that My company would make a profit of £39,800 at a sales level of 200 units, indicating that the product is financially viable.

Breakeven Point

The breakeven point is calculated using the formula:

$$\text{Fixed costs} \div (\text{Selling price} - \text{Variable cost})$$

$$£20,000 \div (£1,399 - £1,100) = £20,000 \div £299 = 66.89 \text{ units}$$

As My company cannot sell part of a unit, the breakeven point is rounded up to 67 units. This means my company must sell at least 67 iPhone 18 Pro Max units to cover all costs.

Margin of Safety

The margin of safety shows how much sales can fall before the business begins to make a loss. It is calculated by subtracting breakeven sales from expected sales

$$200 - 67 = 133 \text{ units}$$

A margin of safety of 133 units indicates a low level of financial risk, as sales would have to fall significantly before My company makes a loss.

Evaluation

Breakeven analysis is useful for my company because it clearly shows the minimum level of sales required to avoid losses and helps management make informed decisions about pricing, production levels, and cost control. The low breakeven point compared to expected sales suggests that the iPhone 18 Pro Max is likely to be profitable and that My company has a strong competitive position.

However, breakeven analysis has limitations. It assumes that costs and selling prices remain constant, which may not be realistic due to changes in component prices, inflation, or competitive pressure. It also assumes that all units produced are sold, ignoring possible fluctuations in demand. Additionally, breakeven analysis does not consider external factors such as economic conditions or technological changes.

Overall, despite these limitations, breakeven analysis is an effective planning tool for My company. The large margin of safety and expected profit indicate that launching the iPhone 18 Pro Max would be a financially sound decision.

Reference

- "exam answer version" <https://chatgpt.com/c/6985d389-3aac-8392-a25d-8bd181f64dc6> (Accessed: 3 February 2026)

exam- answer version

Breakeven Analysis – Apple iPhone 18 Pro Max

Apple has carried out a breakeven analysis for its new product, the iPhone 18 Pro Max, to assess whether the product will be profitable and to determine the minimum number of units that must be sold to cover all costs.

Assumptions

To complete the breakeven analysis, Apple has made the following assumptions:

- The selling price of the iPhone 18 Pro Max is £1,399 per unit, which is competitive with other premium smartphones on the market.
- The variable cost per unit is £1,100, which includes the cost of components (£1,000), packaging (£50), and distribution (£50).
- Fixed costs are £20,000 per month, covering research and development, factories, staff salaries, marketing, and software.
- Expected monthly sales are 200 units, based on market research.
- The maximum production capacity is 600 units per month.

Variable Costs Calculation

Formula:

Variable costs = Variable cost per unit × Number of units

Calculation:

$£1,100 \times 200 = £220,000$

Therefore, the total variable cost of producing 200 units is £220,000.

Total Costs Calculation

Formula:

Total costs = Fixed costs + Variable costs

Calculation:

$£20,000 + £220,000 = £240,000$

The total cost of producing 200 units is £240,000.

Revenue Calculation

Formula:

Revenue = Selling price × Sales volume

Calculation:

$200 \times £1,399 = £279,800$

The total revenue generated from selling 200 units is £279,800.

Profit Calculation

Formula:

Profit = Revenue – Total costs

Calculation:

$£279,800 - £240,000 = £39,800$

This shows that Apple would make a profit of £39,800 if 200 units are sold.

Breakeven Point Calculation

The breakeven point shows the number of units that must be sold for total revenue to equal total costs.

Formula:

Breakeven point (units) =

$\text{Fixed costs} \div (\text{Selling price} - \text{Variable cost})$

Calculation:

$£20,000 \div (£1,399 - £1,100)$

$£20,000 \div £299$

$= 66.89 \text{ units}$

As part units cannot be sold, the breakeven point is rounded up to 67 units.

Margin of Safety

The margin of safety shows how much sales can fall before the business reaches the breakeven point.

Formula:

Margin of safety = Actual sales – Breakeven sales

Calculation:

$200 - 67 = 133 \text{ units}$

This means sales could fall by 133 units before Apple begins to make a loss.

Conclusion

In conclusion, Apple's breakeven analysis shows that the iPhone 18 Pro Max is a profitable product. The breakeven point of 67 units is significantly lower than the expected sales of 200 units, giving a large margin of safety. This indicates that the product has a low financial risk and strong potential for profitability.

My mistakes fix by ChatGPT and Deepseek

✓ Mistake 2: Scenario A rounding sentence is wrong (BIG)

In Scenario A you correctly calculated breakeven = 101, but later you wrote:

✗ Your text (Scenario A)

"As part units cannot be sold, the breakeven point is rounded up to 67 units."

✓ Fix

"As part units cannot be sold, the breakeven point is rounded up to 101 units."

Everything else in Scenario A (profit £19,800 and margin of safety 99) is correct ✓

✗ Your table row (Scenario B – wrong)

Total £1,100 £240,000 £29,800 £29,800

✓ Fix that row (Scenario B – correct)

Total £1,150 £250,000 £29,800 £29,800

Also the "Total cost" figure must match £250,000, not £240,000.