



Complete, fold and seal
(see note 2 below)

SURNAME: Sorg

FORENAME(S): Jason

12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiner will ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

7	Number of Answer Books handed in	1
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(Gweler yr ochr arall am y fersiwn Cymraeg)



a) Costs

[£500,000]

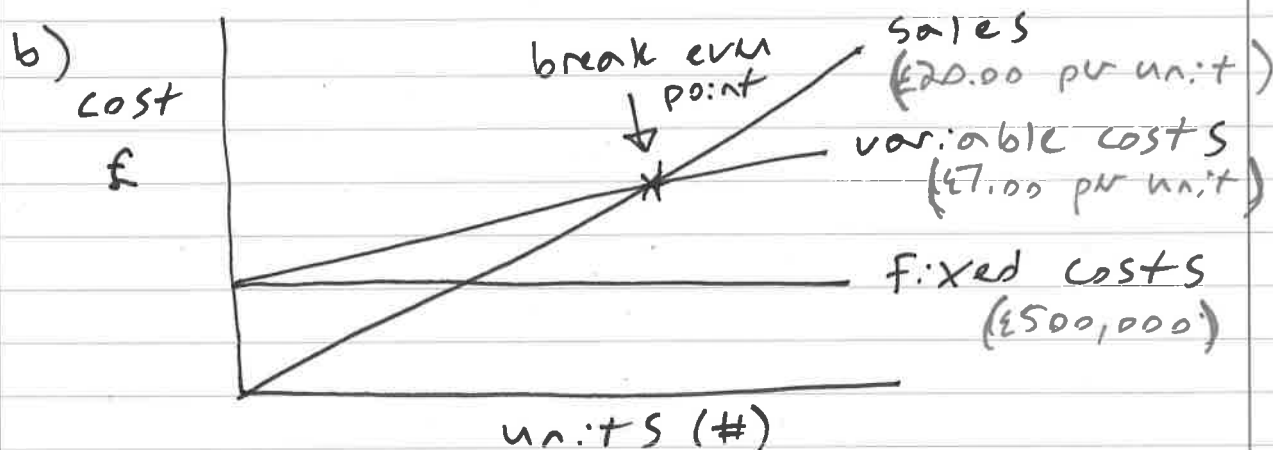
$$[£7.00 \times 60,000] = 420,000$$

 [£ 920,000]

Profit
 $20 \times 60,000 =$
 £1,200,000

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The break even point is at £ 920,000.00 in sales. If the sale rate was equally spaced per month and started in the first quarter, it would take 9 months and 6 days roughly,



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c) Costs

[£500,000]

$$+ [£7.00 \times 45,000 = £315,000]$$

 [£ 815,000.00]
Profit

$$\begin{aligned} & 20.00 \\ & \times 45,000 \\ & = £ 900,000.00 \end{aligned}$$

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$$\text{margin of safety} = \frac{£900,000}{£815,000} - 1 \times 100 = 10.43\%$$

$$\frac{£900,000 - 815,000}{20} = 4250 \text{ units}$$

or [4250 units]

d) <u>Costs</u> [£500,000] + [£7.00 × (0.75 × 60,000)] = £315,000 £ 815,000.00	<u>Profit</u> £20.00 × (0.75 × 60,000) = £900,000.00
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total profit = £900,000.00 - ~~£815~~ £ 815,000.00

= £ 85,000.00

2) - It does not account for unforeseeable costs, (such as equipment breaking)

- Does not account for depreciation

- usually only used for basic representations of profit or loss a company can achieve

- Does not include ~~interest~~ interest rates or fluctuating business costs

- Does not account for future sales or buying habits as the sales trend is linear which is not the case in real world situations.

a) 1) Equipment cost - must know the capital need upfront to start manufacturing

2) operating costs - how much per unit of material will the autoclave use.

3) maintenance schedule - to determine how often the Autoclave will be down (not able to produce units)

Technical
4) [^]Support that is included - how much support that comes with the equipment is important when things break, because eventually they will

5) Time ~~na~~ taken to produce a unit - This is important to generate a schedule

6) Set up Fee's / time needed - does the company provide set up and How long is needed before the autoclave can be up and running

7) Footprint of machine - must be known in order to determine if the machine will fit.

8) Competitive ~~edge~~ ^{edge} - does the company ~~offer~~ offer something that is better than competitors

9) Shipping costs - does the price include shipping

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10) Training needed - How much training does an operator need / will new employees need to be hired.

11) Leasing options - does the company allow leasing options / or lease to buy options. Allows more flexibility

12) Proven Results - Does the autoclave perform the way it should and this should be backed by data and testing.

13) warranty - is it included / for how long

b) Life Cycle ~~costs~~ Costing is a way to determine ~~the~~ how feasible a piece of equipment is over its entire life. This gives clarity about how effective the machine or unit in question is.

- c) - Price of material
- Cost of maintenance ✓
 - maintenance schedule
 - operator costs - how autonomous is the autoclave ✓
 - power usage ✓
 - potential units that can be produced
 - longevity - how long is the machine suppose to last ✓
 - warranty - what is included and for how long ✓
 - Set up / disposal fees ✓
 - depreciation - how much can it potentially be sold for later on ✓

1 1/2
3

2
19

16 1/2
25

i) - potential savings in diesel fuel costs ✓

~~attract~~

- attract new customers who believe "green" transportation is better. ✓

- generate good publicity around the council and public transport network ✓

- help with pressures from global / local politicians who view gas/diesel to not be sustainable ✓

- have a comparison to running just diesel buses, which is why a test fleet is very good ✓

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ii) Political

- increasing emission standards ✓

- global views about swansea's operating standards could increase ✓

- taxation breaks granted ✓

- If they do not work as good as ✓

previous buses the publicity would be bad ✓

- providing an upgraded service to the people in need ✓

Economical

- lower running costs (potentially) ✓

- new fleet means less maintenance but large upfront cost ✓

- might need to higher new staff to drive/maintain the buses ✓

- unknown life cycle as new tech is not proven which could cause unforeseeable costs ✓

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ii continued...

Social

- appeals to a new demographic that views "green transportation" as the new way forward
- potential for more buses in a deficient market
- generates good publicity around the city and transport network
- stop the stigma around buses being dirty and bad for the environment

Technological

- potential added luxury features (such as a nicer interior) or more seating capacity
- creates a small carbon footprint
- provide a smoother more efficient service
- potential less maintenance due to new fleet

iii) I would advise that all parties involved (city and operators) should welcome the test fleet to Swansea because it provides an opportunity to weigh the benefits around "green" transportation and traditional diesel buses, and also the cons associated with them. If everyone approaches the new test fleet with an open mind the ~~comparison~~ comparison can be unbiased and thus the data generated from the test session can be used to make an informed decision around purchasing them.