

# Markscheme

November 2024

Business management

Standard level

Paper 2

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The markbands on page 3 should be used where indicated in the markscheme.

Marks	Level descriptor
0	The work does not reach a standard described by the descriptor.
1–2	<ul style="list-style-type: none"> <li>• Little understanding of the demands of the question.</li> <li>• Little use of business management tools and theories; any tools and theories that are used are irrelevant or used inaccurately.</li> <li>• Little or no reference to the stimulus material.</li> <li>• No arguments are made.</li> </ul>
3–4	<ul style="list-style-type: none"> <li>• Some understanding of the demands of the question.</li> <li>• Some use of business management tools and theories, but these are mostly lacking in accuracy and relevance.</li> <li>• Superficial use of information from the stimulus material, often not going beyond the name of the person(s) or name of the organization.</li> <li>• Any arguments made are mostly unsubstantiated.</li> </ul>
5–6	<ul style="list-style-type: none"> <li>• The response indicates an understanding of the demands of the question, but these demands are only partially addressed.</li> <li>• Some relevant and accurate use of business management tools and theories.</li> <li>• Some relevant use of information from the stimulus material that goes beyond the name of the person(s) or name of the organization but does not effectively support the argument.</li> <li>• Arguments are substantiated but are mostly one-sided.</li> </ul>
7–8	<ul style="list-style-type: none"> <li>• Mostly addresses the demands of the question.</li> <li>• Mostly relevant and accurate use of business management tools and theories.</li> <li>• Information from the stimulus material is generally used to support the argument, although there is some lack of clarity or relevance in some places.</li> <li>• Arguments are substantiated and have some balance.</li> </ul>
9–10	<ul style="list-style-type: none"> <li>• Clear focus on addressing the demands of the question.</li> <li>• Relevant and accurate use of business management tools and theories.</li> <li>• Relevant information from the stimulus material is integrated effectively to support the argument.</li> <li>• Arguments are substantiated and balanced, with an explanation of the limitations of the case study or stimulus material.</li> </ul>

### Section A

1. (a) Define the term *fixed cost*. [2]

A **fixed cost** is a cost that **does not change with the level of production/output**.

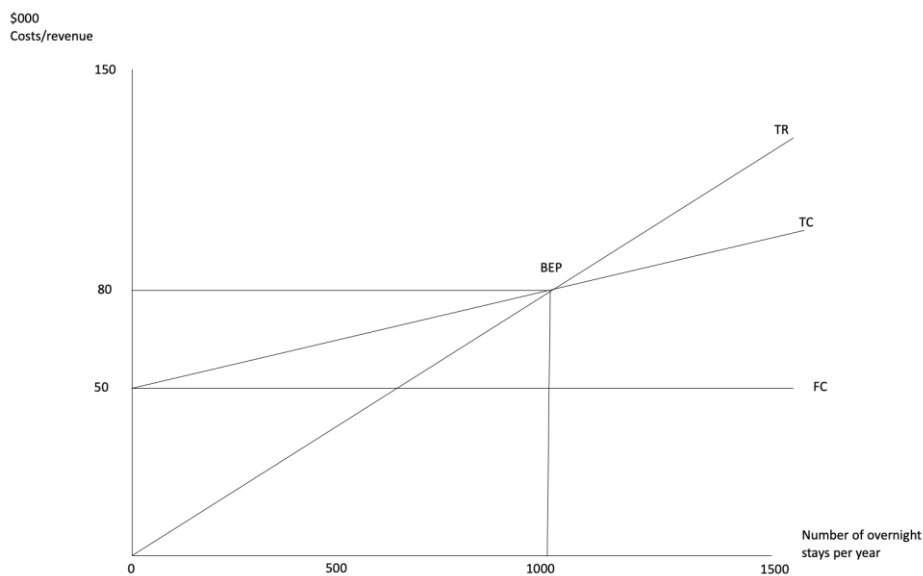
**N.B.** no application required. Do not credit an example.

Candidates are **not** expected to word their definition **exactly** as above.

Award [1] for a basic definition that conveys partial knowledge and understanding similar to the above answer. The first mark would typically come from awareness that the costs do not change.

Award [2] for a full, clear definition that conveys knowledge and understanding similar to the answer above. Candidates should receive a second mark if they convey the idea that it does not change according to the level of production/output.

- (b) Construct a fully labelled break-even chart, to scale, for ER for 2025. [4]



Award marks as follows:

[1] for a correctly labelled and accurately drawn total revenue (TR) line – can be TR or revenue (but not “sales” on its own).

[1] for a correctly labelled and accurately drawn total cost (TC) line.

[1] for identifying the break-even point. The break-even point must show where the total revenue and total cost line intercept.

Ideally, the candidate will draw an arrow pointing to the break-even point and label the arrow. However, accept as an accurately labelled break-even point a vertical line from the x-axis to the break-even point, provided that the line is labelled “break-even point”.

[1] for correctly labelling BOTH axes – y-axis must have both costs and revenue; x-axis must have some indication of quantity, e.g. output/units/quantity/items/number of rooms

*A break-even chart that is not neat, not drawn with a straight edge, or is not drawn to scale can be awarded a maximum of [2] if the total revenue and total cost lines and axes are all correctly labelled*

*If a candidate produces a table rather than a chart, award [0].*

**N.B.** *drawn diagrams must have a consistent verifiable scale, otherwise it cannot be determined if TR and TC are accurate, even if correctly labelled.*

- (c) *ER has forecasted overnight stays in 2025 to be 1460. Calculate ER's forecasted level of profit for 1460 overnight stays in 2025 (show all your working). [2]*

$$\begin{aligned} \text{Total Revenues} &= \text{Quantity sold} \times \text{Price} \\ \text{TR} &= 1460 \times \$80 = \$116\,800 \end{aligned}$$

$$\begin{aligned} \text{Total Costs} &= \text{Fixed Costs} + \text{Variable Costs} \\ \text{TC} &= \$50\,000 + \$30 \times 1460 \\ \text{TC} &= \$93\,800 \end{aligned}$$

$$\begin{aligned} \text{Profit} &= \text{Total Revenues} - \text{Total Costs} \\ \text{Profit} &= \$116\,800 - \$93\,800 \\ \text{Profit} &= \mathbf{\$23\,000} \end{aligned}$$

**OR**

$$\begin{aligned} \text{Total Revenues} &= \text{Quantity sold} \times (\text{contribution per unit}) = \\ 1460 \times \$50 &= \$73\,000 \end{aligned}$$

$$\begin{aligned} \text{Profit} &= \text{Total Revenues} - \text{Fixed Costs} \\ \text{Profit} &= \$73\,000 - \$50\,000 \\ \text{Profit} &= \mathbf{\$23\,000} \end{aligned}$$

*Award [1] for the correct answer and [1] for correct working, up to a maximum of [2]. A correct answer must include the **sign \$** which can appear in the working or final answer.*

*Award [1] for correct workings/steps but an incorrect answer from something such as a mathematical error.*

*If candidates do not show any working but correctly write \$23 000, award [1].*

- (d) Of the seven available rooms in the guest house, the current average (mean) occupancy per night is four, and ER's occupancy has a standard deviation of one.

Using standard deviation, comment on ER's current average occupancy per night. **[2]**

With a standard deviation of 1, approximately **68%** of the **data points fall within the normal distribution between 3 and 5, 95% between 2 and 6** and **99% between 1 and 7**. Thus, on the vast **majority of nights (99%) ER has rented out between 1 and 7 rooms**.

*Award [1] if the candidate shows knowledge of standard deviation.*

*Award an additional [1] for references to percentages and room occupancy.*

2. (a) State **two** advantages for a business of having customers with high brand loyalty. **[2]**

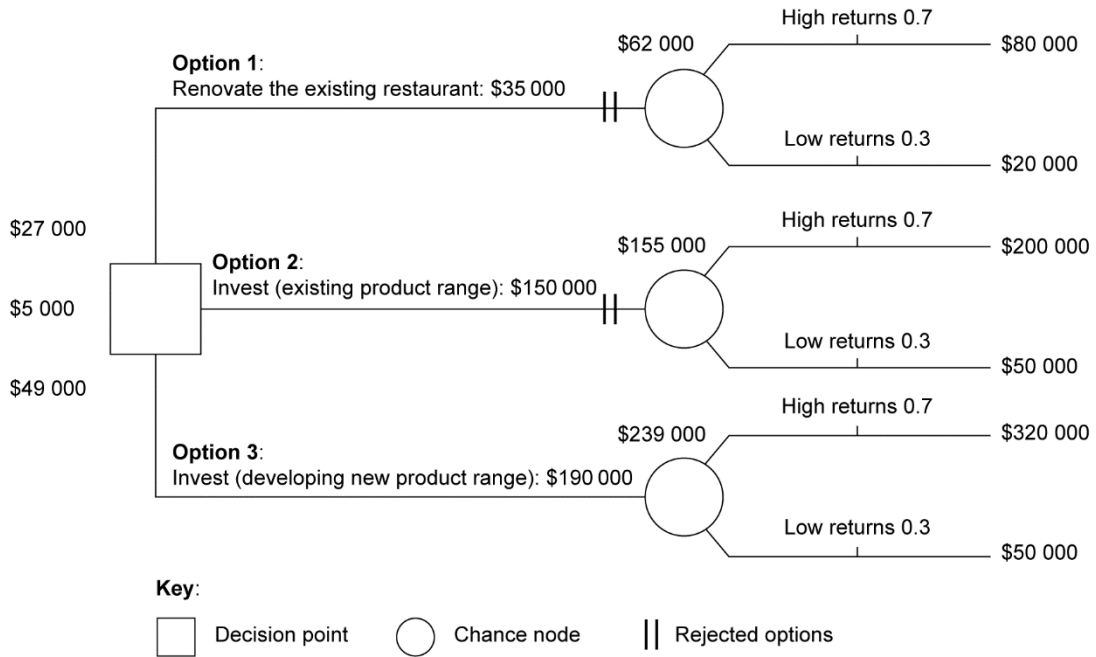
- Brand loyal consumers **repeatedly purchase** the products by the business, leading to **increased sales** revenue and profits / do not go to competitors;
- brand loyal consumers make **favourable recommendations** (talking positively) to others. Hence supports word of mouth marketing, leading to an **increased consumer base**;
- leads to **deeper relationships with customers** and established trust in the business. This supports the new products introduced by the business;
- customers loyalty **strengthens the employer's brand** in the job market. Employees prefer working with a business that people are loyal to. This further **increases employee satisfaction**;
- gives a business a strong reputation, which is a competitive advantage;
- good word-of-mouth promotion.

*Accept any other relevant advantage.*

**N.B.** no description is required.

*Award [1] for each relevant advantage stated, up to a maximum of [2].*

(b) Using **Table 1**, construct a fully labelled decision tree **and** identify the best option for **FF** (show all your working). **[6]**



**Expected returns for option 1:**  
 $= (0.7 \times \$80\,000 + 0.3 \times \$20\,000) - \$35\,000$   
 $= (\$56\,000 + \$6\,000) - \$35\,000$   
 $= \$27\,000$

**Expected returns for option 2:**  
 $= (0.7 \times \$200\,000 + 0.3 \times \$50\,000) - \$150\,000$   
 $= (\$140\,000 + \$15\,000) - \$150\,000$   
 $= \$5\,000$

**Expected returns for option 3:**  
 $= (0.7 \times \$320\,000 + 0.3 \times \$50\,000) - \$190\,000$   
 $= (\$224\,000 + \$15\,000) - \$190\,000$   
 $= \$239\,000 - \$190\,000$   
 $= \$49\,000$

The **best option for FF is to invest in a new restaurant and develop a new product range (Option 3) because it has the highest expected revenue of \$49 000.**

Award up to **[2]** for an accurately constructed decision tree.

Award up to **[3]** for three correct EV (option) calculations plus stated best option. Award **[1]** if incorrect calculations result in OFR best option.

Award **[1]** for correct working, rejected option and key.

Award a maximum of **[6]** for a decision tree that is accurately constructed. The calculations of each option are correct and well presented. A key is provided. As well as the rejected options and full workings. Full marks can be awarded even if the headings of expected return/forecast revenue and probabilities are not explicitly written.

*Deduct maximum [1] if a key is not provided, and/or the best option is not identified on the tree and/or workings not shown. Deduct a further [1] if the best option is not identified in the written response.*

*Accept if \$ sign present in either the tree, workings or final answer.*

(c) Explain **one** advantage for Friya of using a decision tree. **[2]**

- Allows to present the **problem in a visually clear and logical manner/simple and easy to use** (clear answer to a complex decision). Friya can **identify all three options** of expansion and then consider the best option;
- Allow to **study all the potential options at one time** and hence **speeds up the decision-making**. **Different opportunities** including **renovating the restaurant, adding to the product range, or investing in a new restaurant and developing a new product range** can be examined and the most suitable decision can be taken;
- **Considers the risk involved** in decision-making;
- More **logical method of decision-making** as it **considers the approximate cost and returns to the options available**. The **best option** for FF is to **invest in a new restaurant and develop a new product range (Option 3)** because it has the highest expected revenue of \$49 000.

*Accept any other relevant advantage and explanation.*

**Mark as 1 + 1**

*Award [1] for identifying or describing the advantage to Friya and a further [1] for development with respect to Friya. Award a maximum of [2].*



### Section B

3. (a) State **two** advantages of operating as a for-profit social enterprise. **[2]**

A **for-profit social enterprise** is an organization with many **similarities to a normal social enterprise**, except that it **often earns a profit, some of which might be distributed to owners**. The **primary aim** of a for-profit social enterprise is to **provide a social service**.

Advantages:

- a **favourable legal status** is achieved;
- it has a **strong communal identity**;
- **stakeholder community benefits**;
- typically have their own legal identity, therefore, owners have limited liability;
- it is **more sustainable than a non-profit organization** that must rely on grant money, donations or federal programs alone.

*Accept any other relevant advantage.*

**N.B.** no description is required. Do not credit examples.

Award **[1]** for each correct advantage identified up to a maximum of **[2]**.

- (b) Using **Table 2**:

- (i) calculate the mean cost of production per day for the 40 pies made  
(*show all your working*); **[2]**

$$\$80 + \$600 + \$780 + \$640 = \$2100$$

$$\text{Mean} = \$2100 / 40 = \mathbf{\$52.5}$$
 (Allow rounding \$53)

Award **[1]** for the correct answer and **[1]** for the correct working, up to a maximum of **[2]**. A correct answer must include the **sign \$** in the working or final answer.

*Award [1] for correct workings/steps but an incorrect answer from something such as a mathematical error.*

*If candidates do not show any working but correctly write \$52.5, award [1].*

- (ii) calculate the median cost of production per day for the 40 pies made (show all your working); [2]

20<sup>th</sup> point is at \$60. 21<sup>st</sup> point is at \$60.  $(\$60+\$60)/2 = \text{median cost of production } \$60$

x	f	$\Sigma f$
\$20	4	4
\$40	15	19
\$60	13	32
\$80	8	40
	$\Sigma f=40$	

Award [1] for the correct answer and [1] for the correct working, up to a maximum of [2].

Some candidates may calculate the median by dividing the number of data points by two, which is  $40/2$ , and take the 20<sup>th</sup> ranked data point, which is \$60. When this approach is taken, award [1] for the correct answer (as the 20<sup>th</sup> ranked data point is \$60), but no marks for correct working.

A correct answer must include the **sign \$** in the working or final answer.

Award [1] for correct workings/steps but an incorrect answer from something such as a mathematical error.

If candidates do not show any working but correctly write \$60 award [1].

- (iii) calculate the modal/mode cost of production per day for the 40 pies made (no working required). [1]

The largest frequency is 15 units and relates to medium pies, so the **modal cost of production is \$40**

Award [1] for the correct answer \$40.

x	f	fx	cf
\$20	4	\$80	4
\$40	15	\$600	19
\$60	13	\$780	32
\$80	8	\$640	40
	$\Sigma f=40$	$\Sigma fx=\$2100$	

- (c) *BB* wants to launch a bigger pie, the extra extra large (XXL). *BB* plans to make 10 XXL pies per day and estimates a unit cost of production of \$100.

Calculate the effect that this would have on your answer to part (b) (iii) (no working required).

[1]

\$40 = the largest frequency is still 15 units so, = **NO CHANGE**

Award [1] for an answer that states there is no change in the modal cost of production

x	f	fx	cf
\$20	4	\$80	4
\$40	15	\$600	19
\$60	13	\$780	32
\$80	8	\$640	40
\$100	10	\$1000	50
	$\Sigma f=50$	$\Sigma fx=\$3100$	

- (d) Comment on **one** of the two data sets (Figure 1 or Figure 2).

[2]

**The first chart shows the revenue contribution by product in 2023 and 2024.** In 2023, around **65% of revenue** was generated from the sale of **pies**, around **20%** was generated from **cupcakes**, and around **15%** from **tarts**. However, in 2024, the **contribution** from **pies** fell approximately to 56% (approx.), while the revenues from **cupcakes** and **tarts** was sort of **equally generated**, around **22%** each. Clearly, in **2023 pie** was the **most popular** product but by **2024** customers' taste seemed to be **shifting towards** the **other two products** as well.

The **second chart shows the revenue generated by each shop in 2023 and 2024.** In **2023**, around **42%** (approx.) of the revenue came from **shop 1**, around **34%** came from **shop 2**, and around **24%** from **shop 3**. However, in **2024**, **revenue** was more evenly **generated by the shops 2 and 3**, with **shop 1 still taking the lead** (shop 1 around 36%, shop 2 around 33% and shop 3 around 31%).

Award [1] if a candidate restates a data set in words. Award an additional [1] if the candidate provides some reasonable interpretation, that is, the candidate goes beyond restating the data set in words.

- (e) Using information in the stimulus, discuss strategies that *BB*'s human resource department could use to reduce the impact of change on employees.

[10]

It is not uncommon for **employees to feel threatened by change** when managers implement it because of shifts **in the environment**. In the case of *BB*, the bakery industry seems to have a **good growth prognosis (10%) for the next five years**, justifying opening two other shops in town. Because of this, an **increase of online sales and in-store pick up orders**, and looking to **increase their social impact** (i.e. the number of free workshops), John pretends to make some changes to the HR plan (reducing counter-staff, hiring independent contractors, offering that possibility to current employees, offering training possibilities to reskill). It is **important to routinely communicate the benefit and need of these changes, to develop a vision for the change and desired outcomes** (grow according to the industry forecast, increase number of free workshops, continue to contribute to the foodbank).

It seems that BB is changing the way the business is organized. If they want to continue to impact lives and increase the number of free workshops, they **need to cut down the costs of their products**. They can do **this through automation using robotic mixers and offering training to employees to reskill** and fill positions in the new shops. This will **allow employees to see the benefit of the change immediately**.

By **hiring independent gig economy employees** (e.g. part time), BB can also **better forecast and allocate resources to implement the change**. It is a **cost-effective** way to **hire additional employees during busy shifts or seasons, which are so common of the bakery industry**, allowing for **flexibility** on both ends.

**Change is stressful**. Some employees are feeling uncomfortable already. **BB should try to involve them in the change process** as much as possible so they do not feel powerless. For instance, when encouraging employees to become part time or any suitable format pertaining to the gig economy, the final decision should be up to them.

Relevant strategies could include:

- communications
- financial rewards
- non-financial rewards
- training
- relocation to two new shops
- involvement in decision making.

*Accept any other relevant strategy and discussion.*

*Marks should be allocated according to the markbands on page 3 with further guidance below:*

*If there is no balance, then for a one-sided response where only one strategy is considered then award a maximum of [3].*

*Award [4] for two unbalanced strategies.*

*Award [5] if the candidate discusses one strategy only (with balanced and substantiated arguments) then award a maximum of [5].*

*Award [6] if the candidate discusses one strategy (with balanced and substantiated arguments) and at least one other strategy without balance.*

*Award [7] for two balanced strategies.*

*Award [8] for two balanced strategies and a conclusion that is more than nominal. Good analysis and understanding throughout the response with reference to the stimulus material.*

**N.B.** *candidates cannot reach the top marks if there is no relevant reference/application to the stimulus and an explanation/awareness of the limitations of the stimulus material.*

4. (a) State **two** features of a cooperative. **[2]**

The main features of a cooperative include:

- An **aim** is to **serve** the **members** of the cooperative/members with a common interest;
- a cooperative **is a type of corporation**;
- a cooperative **has a board of directors or trustees**;
- **members** of the cooperative **have limited liability**;
- cooperatives **have democratic** or democratically spirited **management**;
- **legal existence is separate from the members** themselves;
- **membership** is usually **open**;
- Cooperative's **priority is not to make profit**;
- **surpluses/profit are distributed** except when needed for finance;
- the **organization will not end if a member dies or withdraws**;
- all **owners have equal voting rights**;
- profits distributed amongst members;
- common goal.

*Accept any other relevant feature.*

*Do not award [1] for “owned by employees”.*

**N.B.** *no description is required. Do not credit examples.*

*Award [1] for each relevant feature identified up to a maximum of [2]. Do not accept “is a social enterprise,” as many cooperatives are for profit.*

- (b) Explain **one** advantage for AB of having a mission statement. **[2]**

Mission statements

- **clarify** purpose;
- **communicate** a message publicly;
- **focus energy** and attention;
- **inform decision-making**;
- often **motivate** employees.

*Accept any other relevant advantage and explanation.*

*Award [1] for each advantage stated and an additional [1] for application to the stimulus and explanation.*

**N.B.** *the two opportunities for application include:*

- *motivation, as all **owner-employees are environmental activists**;*
- *communication of a message publicly, as **AB has its mission statement on all packaging**.*

(c) Using **Table 3**:

- (i) comment on the effect on fixed costs if the number of bottles produced decreases to 300 000; **[2]**

Candidates should mention that fixed costs remain constant, no matter whether production increases or not. So, if production reduces to 300 000 water bottles, the fixed costs will remain \$1 800 000.

*Candidates must state that fixed costs remain constant [1] and award an additional [1] if the candidate mentions \$1 800 000 (application) **OR** if the candidate explains that fixed costs are costs that do not change as output increases or decreases. Maximum award: [2].*

- (ii) calculate AB's margin of safety for 2025 (*show all your working*); **[2]**

Break-even point is  
 Fixed Costs / (selling price – cost of planting a tree – Variable cost)  
 \$1 800 000 / (\$15 – \$5 – \$4) =  
 \$1 800 000 / \$6 = 300 000 units

Forecasted number of units – break-even quantity = **Margin of safety**  
 320 000 – 300 000 = **20 000 water bottles or units**

*Award [1] for correct working and [1] for correct answer, up to a maximum of [2].*

*Award [1] for correct workings/steps but an incorrect answer from something such as a mathematical error.*

*If candidates do not show any working but correctly write 20 000 water bottles or units, award [1].*

**N.B.** *if a candidate writes, “The margin of safety is from 300 000 units to 320 000 units,” rather than 20 000 units, accept. Without working, award [1]. With working, award [2].*

- (iii) comment on the effect on the break-even quantity if the selling price of each water bottle increases to \$21. **[2]**

If the selling price of water bottles increases to \$21, the new Break-even quantity will fall.

*Award [1] if the candidate mentions that the break-even quantity falls. Award an additional [1] for an explanation as to why. Eg contribution per unit will increase.*

- (d) Using the information in the stimulus, recommend a plan of action to address the CEO's concerns for the next two years (2025–2026).

[10]

With **high inflation, workers' purchasing power is decreasing**. However, **giving** employees a pay **rise is problematical**, as AB's forecasted **margin of safety is only 20 000 units**. Factory **supervisors** have **begun to complain** that they are **not being rewarded for their extra responsibilities**. Whereas paying the CEO, CFO, and the CPD more than the others is defensible because they have executive responsibility, **paying employees' supervisors**, even if only modestly more, **could erode group spirit/fellowship among employees**, who otherwise have a shared sense of purpose.

In **2026**, AB will have to **make \$600 000 in capital expenditure** necessary to **increase capacity**. The cooperative **will not be able to finance** these **expenditures internally** but is **unlikely to be able to finance** all the capital expenditures **externally**. Thus, **some of the profit will have to be retained for capital expenditures**, further **weakening** AB's ability to **increase employee salaries**.

**Replacing the five factory employees and one factory supervisor** who are **planning to retire** will require **revenue expenditure for recruitment, induction, and training**, and, thus, AB will face **added costs**.

**Increased** number of **entrants** into the **reusable water bottle market** has **made it more price competitive**. Thus, **AB is unlikely to be able to raise prices**. The increasing competitiveness also calls into **question the plan to increase capacity**.

An obvious **area** where AB could **cut costs** is to **reduce the number of trees that it plants**. For example, the cooperative **could plant one tree for every two water bottles sold** (instead of 1 tree per water sold), thus reducing total **variable costs from \$9 to \$7**. However, such a change **would require producing a new mission statement** and any new one would have less force than the current one. Such a change **could also weaken employee-owner motivation** and esprit de corps.

*Marks should be allocated according to the markbands on page 3 with further guidance below:*

*If there is no balance, then for a one-sided response where only one argument is considered then award a maximum of [3]*

*If the candidate makes no reference to the stimulus provided, then the maximum mark to be awarded is [4] even if there is some balance.*

*Award a maximum of [8] if the answer is of a standard that shows balanced analysis and understanding throughout the response with reference to the stimulus material.*

**N.B.** candidates cannot reach the top marks if there is no relevant reference/application to the stimulus and an explanation/awareness of the limitations of the stimulus material.

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