

Markscheme

Business management

Higher level

Paper 2

ibGenius

The markbands on page 2 should be used where indicated in the markscheme.

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

Section A

1. EcoHome Products Ltd. (EHP)

(a) State **two** features of a privately held company [2]

- Has shares that are not publicly traded on stock exchanges, meaning ownership is limited to private investors or founders.
- Retains control within a small group of shareholders, allowing for strategic decision-making without public influence.

Award [1] for each correct answer. No application needed.

(b) Using information from Table 1, calculate the total contribution of the EcoCleaner product. (*show all your working*) [2]

- Contribution = Sales Revenue - Variable Costs.
- Variable Costs = Direct Labor Costs + Direct Raw Material Costs = \$120,000 + \$60,000 = \$180,000.
- Contribution = \$300,000 - \$180,000 = \$120,000.

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

(c) Based on the contribution costing method, determine if EHP will make a profit or loss from the two new products (*show all your working*). [4]

EcoCleaner contribution = \$120,000 (from part b).

EcoWipes contribution = \$500,000 - (\$150,000 + \$200,000) = \$150,000.

Total contribution = \$120,000 + \$150,000 = \$270,000.

Fixed Costs = \$60,000.

Profit/Loss = Total Contribution - Fixed Costs = \$270,000 - \$60,000 = **\$210,000 profit.**

Award [1] for calculating the contribution of EcoWipes, [1] for summing contributions, [1] for deducting fixed costs and [1] for the correct result.

(d) Explain **one** disadvantage for EHP of using the contribution costing method. [2]

- Contribution costing focuses only on variable costs and ignores fixed costs in decision-making. For EHP, this may lead to an overemphasis on maximizing short-term profits from EcoCleaner and EcoWipes without considering fixed costs or the potential inefficiency of underused resources.
- Fixed costs and variable costs are different in the short run; but in the long run, all costs are variable
- Assumption of sale price will remain the same at different levels of operation. In real life, they may change and give unrealistic results

Accept any other relevant advantage.

Award [1] for a relevant advantage, with an additional [1] for application to EHP. Award up to a maximum of [2].

2. Smart Gadgets Ltd. (SG)

(a) Define the term *Internet of Things (IoT)*. [2]

The Internet of Things (IoT) refers to the network of physical devices, vehicles, appliances, and other items embedded with sensors, software, and connectivity, enabling them to collect and exchange data over the internet.

Candidates are not expected to use the **exact** wording above.

Award [1] for a basic definition that conveys a partial understanding.

Award [2] for a full definition that conveys knowledge and understanding e.g. to the network of physical devices and enabling them to collect and exchange data over the internet.

(b) Using information from Table 2, calculate:

(i) The defect rate for Smart Watch (show all your working). [2]

$$\text{Defect rate} = (\text{Defective Units} / \text{Units Produced}) \times 100 = (2,000 / 50,000) \times 100 = 4\%$$

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

(ii) The labor productivity for both products together (show all your working). [2]

$$\text{Labor productivity} = \text{Total Output} / \text{Total Employees}$$

$$\text{Total Output} = 50,000 \text{ (Smart Watch)} + 20,000 \text{ (SmartHome)} = 70,000$$

$$\text{Labor productivity} = 70,000 / 200 = 350 \text{ units per employee}$$

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

(iii) The operating leverage for Smart Watch (show all your working). [2]

- Operating Leverage = Total contribution / (Total contribution – Fixed costs))
- Total contribution = Sales Revenue - Variable Costs.
 - Variable Costs = Direct Labor Costs + Direct Raw Material Costs = \$160,000 + \$80,000 = \$240,000.
 - Total contribution = \$400,000 - \$240,000 = \$160,000.
- Fixed Costs = \$80,000
- Total contribution – Fixed costs = \$160,000 - \$80,000 = \$80,000.
- Operating Leverage = \$160,000 / \$80,000 = 2.

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

(c) Explain **one** method for Smart Gadgets to increase labor productivity. [2 marks]

SG could implement advanced training programs for employees to enhance their skills in production processes, reducing time wasted and improving output quality. For example, training workers on automated systems in Smart Watch production could lead to faster assembly times and higher productivity.

Other ways:

- Invest in more technological advanced and efficient equipment
- Better management of resources and factors of production

Award [1] for a relevant method, with an additional [1] for application to SG. Award up to a maximum of [2].

3. Eco Brewery Ltd. (EB)

(a) Define the term *working capital*. [2]

Working capital is the difference between a company's current assets (e.g., cash, inventory, accounts receivable) and its current liabilities (e.g., accounts payable, short-term debt). [2]

Candidates are not expected to use the **exact** wording above.

Award [1] for a basic definition that conveys a partial understanding.

Award [2] for a full definition that conveys knowledge and understanding e.g. current assets minus current liabilities.

(b) Using information from Table 3, calculate:

(i) Stock Turnover (number of times) for EB (no working required). [1]

Stock Turnover (number of times) = Cost of sales / Average stock = 1,500,000 / 300,000 = **5 times**

Award [1] for the correct answer.

(ii) The Debtor Days for EB (no working required). [1]

Debtor Days = Debtors / total sales revenue X 365 days = 200,000 / 2,400,000 X 365 = **30.42 days**.

Award [1] for the correct answer.

(iii) The Creditor Days for EB (no working required). [1]

Creditor Days = Creditors / Cost of sales X 365 = 100,000 / 1,500,000 X 365 = **24.3 days**.

Award [1] for the correct answer.

(iv) The Gearing Ratio for EB (no working required). [1]

Gearing Ratio = non-current liabilities / capital employed X 100 = 400,000 / (400,000 + 800,000) x 100 = **33.33%**.

Award [1] for the correct answer.

(v) The Gross Profit for EB (show all your working). [2]

- Gross Profit = Sales Revenue - Cost of Sales.
- Gross Profit = \$2,400,000 - \$1,500,000 = \$900,000.

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

(c) Explain **one** advantage of EB managing inventory turnover efficiently. [2 marks]

Efficient inventory turnover reduces holding costs (e.g., storage and spoilage). For EB, faster inventory turnover ensures freshness in organic craft beers, maintaining product quality and customer satisfaction.

Accept any other relevant advantage.

Award [1] for a relevant advantage, with an additional [1] for application to EB. Award up to a maximum of [2].

Section B

Smile Bags Ltd.

- (a) Define the term *recruitment* [2]

Recruitment is the process by which organizations identify, attract, and select suitable candidates for job vacancies. This includes internal and external recruitment methods such as job postings, referrals, and advertising.

*Candidates are not expected to use the **exact** wording above.*

Award [1] for a basic definition that conveys a partial understanding.

Award [2] for a full definition that conveys knowledge and understanding e.g. the process of identifying, attracting and selecting candidates.

- (b) Explain **one** above-the line **and one** below-the-line promotional strategy SB could use to promote its new line of customizable eco-friendly bags. [4]

- **Above-the-line promotion:**

SB could use social media advertising to reach a wide audience and show samples of their products. SB could use platforms like Instagram and Facebook to increase brand awareness and showcase customizable eco-friendly bags or other packaging solutions they offer such as food packaging or gift wraps, targeting corporate clients globally.

Other above-the-line strategies: Advertisements in specialized for corporate clients magazines / newspapers, online advertising, TV advertising

- **Below-the-line promotion:**

Free samples: SB could participate in trade shows to promote their products. By providing free samples or holding interactive demonstrations at trade shows would allow SB to engage directly with corporate clients, who will have the chance to try the product.

Other below-the-line promotions: direct selling to corporate clients, sponsorships of specific events suitable for the profile of their corporate clients, discounts to already existing customers to try the new customizable bags.

Accept any other relevant response.

Mark as 2+2.

Award [1] for a relevant above-the line and [1] for a relevant below-the-line promotional strategy, with an additional [1] for application to SB. Award up to a maximum of [2]

(c) Explain **one** advantage and **one** disadvantage of SB becoming a publicly held company. [4]

- Advantage: Access to greater capital, as becoming a publicly limited company allows SB to sell shares to the public, enabling it to raise significant funds for their new customizable eco-friendly bags and their global expansion.

Note: As SB is already a privately held company, limited liability and continuity are not an advantage of becoming a publicly held company.

- Disadvantage: Possible loss of control for Michael Harris. As a publicly held company, Michael Harris may need to share decision-making authority with shareholders, potentially leading to conflicts about strategic direction, as for example the countries to be selected for expanding in international markets.

Other disadvantages: Legal formalities involved in setup and high costs may increase SB's need in capital, share prices can be subject to fluctuation, final accounts must be shared with public, risk of takeover

Accept any other relevant response.

Mark as 2+2.

Award [1] for a relevant advantage/disadvantage, with an additional [1] for application to SB. Award up to a maximum of [2]

(d) Using the data provided in **Table 4, Table 5, Table 6 and** information in the stimulus and other information in the stimulus, evaluate SB's consideration of implementing Total Quality Management (TQM) to improve product quality and customer satisfaction. [10]

Total Quality Management (TQM) is a management framework based on the belief that an organization can build long-term success by having all its members, from low-level workers to its highest ranking executives, focus on improving quality and, thus, delivering customer satisfaction. It is a business approach that focuses on continuous improvement, customer satisfaction, and reducing defects. SB's consideration of implementing TQM has both advantages and disadvantages.

Advantages:

- Improved Product Quality: TQM is expected to reduce defective items by 30%, lowering the defect rate from 5% to 3.5% (Table 6).
- Increased Customer Satisfaction: Expected to rise from 80% to 92%, which aligns with SB's mission of sustainability.
- Cost Savings: Reduction in waste could lead to savings of \$25,000 annually.
- Employee Involvement: Training employees on quality standards can enhance motivation, productivity and efficiency. There will be a 10% improvement in production efficiency overall.
- Better quality of the products and increased customer satisfaction can support the success of SB's expansion into international markets.

Disadvantages:

- **High Initial Costs:** Training staff, hiring quality control experts, and purchasing monitoring tools cost \$100,000 (Table 5). However, these costs can be balanced with the annual 25,000\$ cost savings from waste reduction that have been estimated.
- **Resistance to Change:** Employee satisfaction survey (Table 4) indicates 55% openness to change, suggesting possible resistance. However, an effective change management strategy could be implemented as internal communication satisfaction is 68%.
- **Time-Intensive:** Implementing TQM requires continuous monitoring and may take time to show significant results.

While TQM offers significant benefits in quality improvement and customer satisfaction, SB must address employee resistance and high implementation costs. However, as SB is considering turning to a publicly held company, capital can be raised including the implementation of TQM while there is an annual cost saving from better waste management. TQM can also support the international expansion with better customer satisfaction and quality bags. However, the case study does not provide enough data regarding the long term results of the TQM and financial forecasts after the international expansion.

Marks should be allocated according to the markbands on page 2.

If there is no balance, then for a one-sided response where only one approach is considered then award a maximum of **[4]**.

N.B. The nature of the question requires that candidates make a judgment. If balanced arguments are presented but there is no judgment, then the candidate is only partly addressing the demands of the question. Hence award a maximum **[7-8]**.

For **[10]**, there is some awareness of the limitations of the stimulus material. Such limitations might include: information about competition in both options, market survey results from potential customers.

5. Agro Drones

(a) Define the term *market leader*

[2]

A market leader is a company that has the largest market share in a particular industry, market or sector, often setting trends and influencing competitors.

*Candidates are not expected to use the **exact** wording above.*

*Award **[1]** for a basic definition that conveys a partial understanding.*

*Award **[2]** for a full definition that conveys knowledge and understanding e.g. the highest market share in a specific market.*

(b) Explain **one** advantage and **one** disadvantage of using artificial intelligence (AI) in AD's AgroEye product. [4]

Advantage:

- AI enhances precision and efficiency by analyzing crop data in real-time, allowing farmers to optimize resource use and increase productivity.
- Other advantages: Reduction in human error, takes risks instead of humans, available 24x7, helps in repetitive jobs, digital assistance, unbiased decisions, faster decision making

Disadvantage:

- High initial investment and maintenance costs make AI expensive to implement, potentially straining AD's financial resources. Also Relying heavily on AI technology may lead to high development and maintenance costs, and there is a risk of technical failures or inaccuracies that could affect the reliability of the insights provided.
- Other disadvantages: May create unemployment (by replacing occupations), reduced mental and physical activity, ethical issues

Accept any other relevant response.

Mark as 2+2.

Award [1] for a relevant advantage and [1] for a relevant disadvantage, with an additional [1] for application to AD. Award up to a maximum of [2] for each advantage and disadvantage.

(c) Explain one benefit and one limitation of Research & Development (R&D) for AD. [4]

Benefit:

R&D allows AD to develop innovative products like AgroEye, enhancing its competitive advantage and attracting more customers.

Other benefits: Competitive advantage, possible lower costs in production, positive brand image, increases productivity and efficiency

Limitation:

High R&D costs can strain AD's cash flow, particularly if product development delays result in lost revenue.

Also technical issues that have arisen may damage the brand image of AD as this will delay the product launch.

Other limitations: Ethical considerations, competitors' reaction.

Accept any other relevant response.

Mark as 2+2.

Award [1] for a relevant benefit and [1] for a relevant limitation, with an additional [1] for application to AD. Award up to a maximum of [2] for each benefit and limitation.

(d) Using the data provided in **Table 7, Table 8, and Table 9** and other information in the stimulus, evaluate AD's consideration of implementing data mining to improve decision-making. [10]

Data mining is a process of analyzing large sets of data to extract useful insights for decision-making.

Advantages:

- **Operational Efficiency:** AI-powered data analysis can optimize drone flight paths and maintenance schedules, reducing equipment downtime by predicting failures in advance.
- **Cost Savings:** Reduced downtime and repair costs can save \$15,000 annually (Table 9). However forecasted profit or loss is needed.
- **Improved Marketing Strategies:** Customer data analysis can help in personalizing marketing efforts, increasing customer engagement and sales.
- **Annual increase in sales due to data mining that are higher in comparison to annual costs.** Additional annual sales and reduced costs are 135,000|\$ in comparison to 100,000\$ which are the annual cost resulting to a 30,000\$ annual benefit.

Disadvantages:

- **High Initial Costs:** Requires \$150,000 for software and employee training (Table 7).
- **Ongoing Expenses:** Additional \$100,000 annually for salaries and cloud storage (Table 8).
- **Data Privacy Risks:** Collecting and analyzing customer data may raise ethical and legal concerns.
- **Competitive Threats:** Competitors may wait and learn from AD's mistakes, implementing similar strategies at a lower cost.
- **Difficulty in finding skilled personnel**

While data mining offers operational benefits and cost savings, the high initial investment and ongoing expenses may pose financial challenges. However, the long term annual benefit is higher than the initial costs taking into account the impact on revenues and cost reduction. AD must ensure it has skilled personnel and a data security framework before proceeding. A phased implementation may help mitigate risks. However, the case study does not provide forecasted revenues for the next year, cash-flow forecasts and competition analysis in order to better evaluate the decision.

Marks should be allocated according to the markbands on page 2.

If there is no balance, then for a one-sided response where only one approach is considered then award a maximum of **[4]**.

N.B. The nature of the question requires that candidates make a judgment. If balanced arguments are presented but there is no judgment, then the candidate is only partly addressing the demands of the question. Hence award a maximum **[7-8]**.

For **[10]**, there is some awareness of the limitations of the stimulus material. Such limitations might include: information about competition, cash flow forecast or profit or loss forecast.