IBDP Business Management

PAPER 1 CASE STUDY PACK
MAY 2026

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Abraca (ABC)

Level7 Education

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Introduction

For May 2026 examinations

How to use the new Paper 1 Case Study Pack, May 2026

This comprehensive Case Study Pack (CSP) has been produced to help colleagues and students in their preparations for the May 2026 Paper 1 examination *(Abraca)*.

This latest Paper 1 CSP contains the following resources:

- Glossary of key terms from the pre-release section of the *Abraca* case study.
  See pages 3 – 6

- Additional glossary of the key terms in the pre-release statement, explained in the context of the case study.
  See pages 7 – 10

- Two sets of True or False Quiz activities to help test students' comprehension and understanding of the pre-release statement.
  See pages 11 – 14

- Two sets of Comprehension Quiz activities to help test students' comprehension and understanding of the pre-release statement.
  See pages 15 – 18

- Two different full case studies and four Paper 1 mock exam questions, using the IB assessment format. Choose the preferred version(s) for your own students.
  See pages 19 – 34

- Full mark schemes for all four sets of mock exams.
  See pages 35 – 82

- A comprehensive PowerPoint presentation that includes:
  - Ready-made, comprehensive PPT file to use in your lessons.
  - ATL activities and lesson ideas that engage students.
  - Assessment advice, including writing frameworks for the extended response questions.
  - Embedded videos (to provide additional context to the case study).
  - Additional exam-practice questions for 2, 4, 6, and 10-mark questions.
  - Top tips for Paper 1
  - Accompanying teachers' notes.

With best wishes for the upcoming exams in May 2026!

Paul Hoang

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Key terms (content)

For May 2026 examinations

The key terms from the pre-release statement and the first four paragraphs of the *Abraca (ABC)* case study are listed alphabetically for easy reference. Line numbers from the pre-release and case study are shown in brackets.

Note: Marks are awarded for applying any relevant syllabus tool, theory, or term. However, candidates are not required to use HL tools or theories in Paper 1.

Recycling (pre-release statement)

Recycling is the process of converting waste materials into usable products to reduce the impacts on the natural environmental impact. *ABC* recycles e-waste by recovering gold and other metals, turning discarded circuit boards into valuable resources instead of sending them all to landfill.

Publicly held company (1)

A publicly held company is owned by shareholders who can buy and sell shares on a public stock market, such as the New York Stock Exchange. The owners are protected by limited liability. *ABC* is publicly held, so it must balance growth, profit, and sustainability (in the production of concrete and handling of e-waste) to meet shareholder expectations.

Company (1)

A company is a business that is a separate legal entity from its owners, who have limited liability. *ABC* is a publicly held company, meaning ownership is shared among shareholders, creating a separation of ownership and control.

Producer (1)

A producer is a manufacturing business that creates goods or provides services from resources to sell to customers. **ABC** is a producer of concrete, using limestone, clay, and cement to supply the construction industry. It is also a producer of recovered gold, turning e-waste into valuable materials for jewellery makers.

Manufacturing (Manufacture) (11, 13)

Manufacturing is the process of producing physical goods by transforming raw materials or components into finished products. *ABC* manufactures concrete by combining limestone, clay, and cement. As Country Z's largest concrete producer, manufacturing at *ABC* involves large-scale operations and specialised tasks to produce goods efficiently for its customers. It also recovers gold from e-waste to sell to jewellery makers.

Research (4)

Research is the process of investigating and developing new products, processes, or ideas. At *ABC*, research and development (R&D) led to the accidental discovery of a method to recover gold and other precious metals from e-waste at room temperature. This research allows *ABC* to innovate, reduce environmental impact (such as carbon emissions), and create new revenue streams.

Recycled products (4)

Recycled products are goods made from materials that have been recovered and reused instead of being discarded. At *ABC*, recycled products include gold and other precious metals extracted as e-waste (from items such as circuit boards), which are sold to jewellery makers, reducing landfill waste and conserving natural resources.

Products (4, 8)

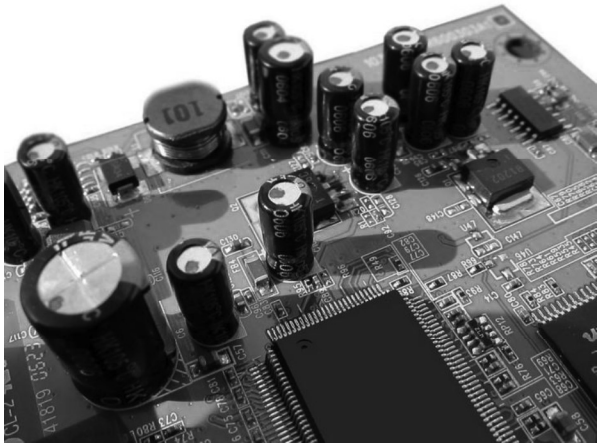
Products are goods or services created by a business to sell to customers. At *ABC*, products include concrete for construction and recovered gold from e-waste, both of which generate revenue and meet market demand. *ABC* operates in the B2B sector, selling their products directly to other businesses, such as construction companies and jewellers.

Recover (product recovery) (5)

To recover means to extract valuable materials from used or waste products for reuse (rather than to dispose of the materials). At *ABC*, the company recovers gold and other precious metals from discarded circuit boards, supporting a circular business model that reduces waste and creates new revenue streams.

e-waste (6)

E-waste refers to discarded electronic products such as computers, mobile (cell) phones, and games consoles. *ABC* processes e-waste to recover valuable metals like gold, reducing landfill waste and creating a sustainable source of materials.



Factory (11)

A factory is a physical facility where goods are manufactured, processed, or assembled using machinery, equipment, and labour. *ABC's* factory produces concrete from limestone, clay, and cement, and also processes e-waste to recover gold and other precious metals. It is the main site where raw materials are transformed into finished products ready for sale to construction companies and jewellery makers.

Efficiencies (15)

Efficiencies refer to the ability of a business to use resources such as labour, materials, capital equipment, and energy in the most effective way to minimize waste and costs. At *ABC*, improving efficiencies could involve using less energy in concrete production or processing e-waste more quickly. Greater efficiency allows *ABC* to reduce environmental impact, lower production costs, and increase profitability. It also supports sustainable practices by maximizing the output from the resources available.

Production (15)

Production is the process of creating goods or services by combining resources such as raw materials, labour, and capital machinery. At *ABC*, production includes manufacturing concrete from limestone, clay, and cement, as well as processing e-waste to recover gold and other precious metals demanded by other businesses. Efficient production ensures *ABC* meets customer demand while controlling costs and supporting sustainability goals.

Market-oriented (17)

Being market-oriented means a business focuses on identifying and meeting the needs and preferences of its customers. *ABC* could become more market-oriented by developing sustainable concrete and recycled gold products that appeal to environmentally conscious buyers. This approach helps *ABC* remain competitive and responsive to changing market trends.

Growth (18)

Growth refers to a business increasing its size (scale of its operations or size of its workforce), output, or market share over time. *ABC* can achieve growth by expanding its concrete production, improving operational efficiencies, or developing its e-waste recycling operations. Growth allows *ABC* to increase revenue, reach new customers, and strengthen its position in both the construction and recycling markets.

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Additional key terms (context)

For May 2026 examinations

This section of the Paper 1 Case Study Pack introduces additional key terms found in the pre-release statement and the first four paragraphs of the Paper 1 *Abraca (ABC)* case study. Each term is defined and applied to *ABC* and/or the concrete manufacturing industry. The terms are listed in alphabetical order for ease of reference, and line numbers are included where the terms appear in the pre-release statement and opening paragraphs of the case study.

Aggregates (as construction materials) (pre-release statement)

Aggregates are granular raw materials used in construction, such as limestone and clay, providing volume, stability, and strength to concrete. They improve the durability of construction materials and can be classified as either natural (quarried) or recycled. *ABC* uses aggregates to manufacture cement and concrete for buildings.

Business-to-business (B2B) (pre-release statement)

Business-to-business (B2B) describes commercial transactions between businesses. For example, *ABC* sells recovered gold, a precious metal, to jewellery makers rather than directly to consumers. For a concrete manufacturer that also recycles e-waste, relevant B2B services could include:

- Waste collection and disposal services – handling non-recyclable or hazardous materials safely.
- Machinery maintenance and repair – servicing concrete mixers, plastic-shredding machinery, and other recycling equipment.
- Energy supply and renewable energy services – providing electricity or installing solar panels.
- Laboratory testing services – testing concrete quality and material composition.
- Security services – protecting *ABC's* factory and valuable recovered previous metals like gold.

Carbon-intensive (7)

Carbon-intensive production processes release large amounts of carbon dioxide. Concrete manufacturing is carbon-intensive due to energy-heavy cement production, fossil fuel use, and transport of aggregates. In e-waste recycling, high-temperature methods increase carbon emissions, while room-temperature processes reduce them. Lower carbon intensity helps firms cut like *ABC* to cut costs, meet regulations, and improve its corporate social responsibility (CSR).

Cement (2)

Cement is a binding construction material used to make concrete. *ABC* manufactures cement from limestone and clay, supplying its concrete production. Cleaner production methods, such as replacing high-emission processes with low-emission alternatives, help to minimize pollution. Waste reduction (such as reusing scraps, reducing packaging, and recycling water) further supports sustainability and reduces the environmental impact of *ABC's* operations.

Circuit boards (7)

Circuit boards are electronic components containing metals and plastics. *ABC* processes discarded circuit boards from electronic waste (e-waste) to recover valuable metals like gold, reducing e-waste, supporting recycling initiatives, and generating an additional revenue stream while promoting environmentally sustainable practices.

Clay (2)

Clay is a natural aggregate used in cement production. *ABC* uses clay as a key input for manufacturing concrete, combining it with limestone and other materials to produce durable concrete while optimizing resource use and supporting sustainable construction practices. Clay comes from weathered or decomposed rocks and is typically mined from quarries, though it can also be extraxted from riverbeds.

Concrete (2)

Concrete is a construction material made from cement, sand, aggregates (like limestone and clay), and water. *ABC*, Country Z's largest concrete producer, manufactures high-quality concrete for buildings and infrastructure. It needs to combine sustainable production methods with efficient resource use to meet construction demands responsibly.

Jewellery makers (13)

Jewellery makers are businesses that produce jewellery using precious metals and stones. *ABC* supplies recovered gold from e-waste to these industrial customers, supporting the circular economy (circular business models), reducing the need for newly mined gold, and promoting environmentally sustainable business practices.

Landfill (10)

Landfill is where waste, including plastics and e-waste, is buried. *ABC's* scientists discovered a room-temperature method to recover gold from circuit boards, avoiding carbon-intensive burning. Globally, 50 million tonnes of e-waste are generated yearly, with 80% ending up in landfill sites.

Limestone (2)

Limestone is a natural rock used to produce cement. *ABC* purchases limestone in large quantities as a key input for its concrete production, combining it with clay and other materials to manufacture durable concrete while promoting efficient resource use and sustainable construction practices.

Plastic-shredding machinery (pre-release statement)

Plastic-shredding machinery breaks plastic waste into smaller pieces for easier processing. *ABC* uses such machinery in its e-waste recycling operations to separate plastics from metals, improving operational efficiency, as well as supporting material recovery and promoting sustainable waste management practices.

Precious metals (5)

Precious metals are rare, valuable metals such as gold (connector plating and conductivity pins), silver (used in electrical contacts and solder), and platinum (used in capacitors and connectors). *ABC* recovers these metals from discarded circuit boards as part of its e-waste recycling process, generating additional revenue while reducing electronic waste and supporting environmentally sustainable business practices.

Room temperature (6)

Room temperature is the typical indoor temperature, around 20–25°C (68–77°F), with no added heating or cooling. *ABC's* e-waste recovery process operates at room temperature, avoiding energy-intensive heating, lowering its carbon emissions, reducing costs, and promoting sustainable recycling while efficiently recovering precious metals.

Solar panels (pre-release statement)

Solar panels are devices that convert sunlight into electricity. *ABC* could use them in its factories to lower energy costs and reduce its environmental impact, providing a renewable alternative energy source to support more sustainable concrete production.

Toxic metals (pre-release statement)

Toxic metals, such as lead and mercury, are harmful substances that can pose serious risks to human health and the environment. Lead is harmful to the nervous system, while mercury is poisonous to kidneys and the brain. Improper disposal of e-waste releases these toxic metals into landfill sites, contaminating soil and water, highlighting the importance of responsible recycling and sustainable waste management practices.

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

True or False Quizzes

For May 2026 examinations

True or False Quiz 1

To test your comprehension and understanding of the *Abraca (ABC)* case study, answer 'True' or 'False' to each of the statements below.

Statements	True or False?
1. *Abraca (ABC)* is a privately held company.	
2. *ABC's* discovery of the gold recovery process supports more sustainable production.	
3. *ABC* is the largest producer of concrete in Country Z.	
4. *ABC's* factory opened in 2024 only handles concrete-related materials.	
5. Obsolete mobile phones and game consoles contribute to global e-waste.	
6. About 80% of global e-waste ends up in landfills.	
7. *ABC* uses limestone and clay as aggregates to produce cement.	
8. Around a quarter of the world's buildings are made from concrete.	
9. Burning circuit boards from e-waste to recover precious metals is carbon-intensive.	
10. *ABC* deliberately researched methods to recover gold from e-waste.	

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

True or False Quizzes

For May 2026 examinations

True or False Quiz 1

To test your comprehension and understanding of the *Abraca (ABC)* case study, answer 'True' or 'False' to each of the statements below.

Answers

Statements	True or False?
1. *Abraca (ABC)* is a privately held company.	False – it is publicly held
2. *ABC's* discovery of the gold recovery process supports more sustainable production.	True
3. *ABC* is the largest producer of concrete in Country Z.	True
4. *ABC's* factory opened in 2024 only handles concrete-related materials.	False – it processes e-waste
5. Obsolete mobile phones and game consoles contribute to global e-waste.	True
6. About 80% of global e-waste ends up in landfills.	True
7. *ABC* uses limestone and clay as aggregates to produce cement.	True
8. Around a quarter of the world's buildings are made from concrete.	False – it is about half
9. Burning circuit boards from e-waste to recover precious metals is carbon-intensive.	True
10. *ABC* deliberately researched methods to recover gold from e-waste.	False – it was accidental

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

True or False Quizzes

For May 2026 examinations

True or False Quiz 2

To test your comprehension and understanding of the *Abraca (ABC)* case study, answer 'True' or 'False' to each of the statements below.

Statements	True or False?
1. Jewellery makers are *ABC's* B2B customers for recovered gold.	
2. *ABC* produces around half of the world's concrete for buildings.	
3. Circuit boards are a major source of global e-waste.	
4. *ABC* opened an e-waste processing factory in 2024.	
5. *ABC's* scientists discovered the gold recovery process from e-waste by chance.	
6. *ABC's* factory processes 100 tonnes of circuit boards each year.	
7. The new gold recovery process operates at high temperatures.	
8. *ABC* is considering growth options and ways to reduce its environmental impact.	
9. Most global e-waste is recycled.	
10. The world produces 50 million tonnes of e-waste annually.	

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

True or False Quizzes

For May 2026 examinations

True or False Quiz 2

To test your comprehension and understanding of the *Abraca (ABC)* case study, answer 'True' or 'False' to each of the statements below.

Answers

Statements	True or False?
1. Jewellery makers are *ABC's* B2B customers for recovered gold.	True
2. *ABC* produces around half of the world's concrete for buildings.	False – such data is not given for *ABC*
3. Circuit boards are a major source of global e-waste.	True
4. *ABC* opened an e-waste processing factory in 2024.	True
5. *ABC's* scientists discovered the gold recovery process from e-waste by chance.	True
6. *ABC's* factory processes 100 tonnes of circuit boards each year.	False – per week (not per year)
7. The new gold recovery process operates at high temperatures.	False – room temperature
8. *ABC* is considering growth options and ways to reduce its environmental impact.	True
9. Most global e-waste is recycled.	False – only about 20%
10. The world produces 50 million tonnes of e-waste annually.	True

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Comprehension Quizzes

For May 2026 examinations

Comprehension Quiz 1

To help improve your application skills, review the first four paragraphs of the *Abraca (ABC)* case study and answer these questions (without referring to the case study if possible).

1. What type of company (legal entity) is *Abraca (ABC)*?

   ……..

2. What is *ABC's* main product?

   ……..

3. How much e-waste is generated globally each year?

   ……..

4. Name two electronic products that contribute to e-waste?

   ……..

5. Which two aggregates does *ABC* purchase to manufacture cement?

   ……..

6. How were precious metals previously recovered from circuit boards at *ABC*?

   ……..

7. Why was *ABC* researching recycled products as aggregates?

   ……..

8. In which country is *ABC* the largest concrete producer?

   ……..

9. What is cement mainly used for?

   ……..

10. Approximately what proportion of the world's buildings are made from concrete?

    ……..

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Comprehension Quizzes

For May 2026 examinations

Comprehension Quiz 1 (Answers)

To help improve your application skills, review the first four paragraphs of the *Abraca (ABC)* case study and answer these questions (without referring to the case study if possible).

1. What type of company (legal entity) is *Abraca (ABC)*?
   A publicly held company

2. What is *ABC's* main product?
   Concrete

3. How much e-waste is generated globally each year?
   50 million tonnes

4. Name two electronic products that contribute to e-waste.
   Computers and mobile phones (or game consoles)

5. Which two aggregates does *ABC* purchase to manufacture cement?
   Limestone and clay

6. How were precious metals previously recovered from circuit boards at *ABC*?
   By burning them at high temperatures

7. Why was *ABC* researching recycled products as aggregates?
   To use recycled materials in concrete

8. In which country is *ABC* the largest concrete producer?
   Country Z

9. What is cement mainly used for?
   Making concrete

10. Approximately what proportion of the world's buildings are made from concrete?
    Half

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Comprehension Quizzes

For May 2026 examinations

Comprehension Quiz 2

To help improve your application skills, review the first four paragraphs of the *Abraca (ABC)* case study and answer these questions (without referring to the case study if possible).

1. What percentage of global e-waste is recycled?

   ……..

2. From which component of e-waste are precious metals recovered?

   ……..

3. At what temperature does *ABC's* recovery process operate?

   ……..

4. Why was the previous recovery method (recovered from circuit boards) said to be carbon-intensive?

   ……..

5. In what year did *ABC* open its e-waste processing factory?

   ……..

6. What did *ABC's* scientists discover by chance?

   ……..

7. What percentage of global e-waste goes to landfill?

   ……..

8. How much e-waste from circuit boards does *ABC's* factory process each week?

   ……..

9. What valuable material does *ABC* recover annually?

   ……..

10. To whom does *ABC* sell the recovered gold?

    ……..

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

Comprehension Quizzes

For May 2026 examinations

Comprehension Quiz 2 (Answers)

To help improve your application skills, review the first four paragraphs of the *Abraca (ABC)* case study and answer these questions (without referring to the case study if possible).

1. What percentage of global e-waste is recycled?
   20%

2. From which component of e-waste are precious metals recovered?
   Electronic circuit boards

3. At what temperature does *ABC's* recovery process operate?
   Room temperature

4. Why was the previous recovery method (recovered from circuit boards) said to be carbon-intensive?
   It required extremely high temperatures

5. In what year did *ABC* open its e-waste processing factory?
   2024

6. What did *ABC's* scientists discover by chance?
   A process to recover precious metals from e-waste

7. What percentage of global e-waste goes to landfill?
   80%

8. How much e-waste from circuit boards does *ABC's* factory process each week?
   100 tonnes

9. What valuable material does *ABC* recover annually?
   Gold

10. To whom does *ABC* sell the recovered gold?
    Jewellery makers

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ1 (A)

For May 2026 examinations

1 hour 30 minutes

Instructions to candidates

- Do not open this examination paper until you have been instructed to do so.
- Read the case study carefully.
- Section A: answer **all** questions.
- Section B: answer **one** question from a choice of two.
- You are permitted to use a calculator for this examination paper.
- The maximum mark available for this paper is **[30 marks]**.

- The data and information included in this mock exam are provided for illustrative purposes only, in order to provide students with practise for the final examinations in May 2026.

Abraca (ABC)

Abraca (ABC), a publicly held company, is Country Z's largest concrete producer. *ABC* purchases large quantities of limestone and clay aggregates to manufacture cement to make concrete. Half of the world's buildings are made from concrete.

As part of *ABC's* research into using recycled products as aggregates in concrete, *ABC's* scientists discovered, by chance, a process to recover gold and other precious metals from electronic circuit boards (e-waste) at room temperature. Previously, the only way to recover precious metals from circuit boards was by burning them at extremely high temperatures, which is a carbon-intensive process. Circuit boards from discarded electronic products, such as computers, mobile (cell) phones and games consoles, create 50 million tonnes of e-waste globally every year. Only 20% of this e-waste is recycled, with 80% of it going to landfill.

In 2024, *ABC* opened a factory to process e-waste. Weekly, this factory processes 100 tonnes of circuit boards. Annually, it recovers hundreds of kilograms of gold, which *ABC* sells to jewellery makers.

ABC is considering:

- increasing efficiencies in its current concrete production
- methods to reduce its impact on the environment
- becoming more market-orientated
- growth options.

The launch of the recycling operations at *ABC* has significantly changed its corporate identity, shifting the business towards a circular model that prioritises environmental sustainability. Although *ABC's* core activity remains concrete manufacturing, the highly carbon-intensive nature of traditional cement production is under increasing scrutiny from local pressure groups. To reduce this impact, the Chief Operations Officer (COO) has begun a transition to renewable energy by installing large-scale solar panels at the factory. This investment is expected to provide a reliable power supply for the plastic-shredding machinery used to separate non-metallic materials from e-waste.

However, processing a growing number of circuit boards as e-waste introduces new operational hazards. Discarded electronic components often contain toxic metals, such as lead and mercury, which require specialised handling to prevent contamination of local landfill sites and groundwater.

This is because improper disposal or incineration of these materials releases toxins that can contaminate soil and water. These substances can damage the human nervous system, kidneys, and liver. Therefore, failure to manage these hazardous materials effectively could result in severe legal penalties and damage the positive corporate social responsibility (CSR) reputation that *ABC* has worked hard to establish. This goes beyond meeting regulatory safety and quality standards.

ABC has historically operated with a product-orientated focus, relying on its position as the largest producer in Country Z to secure government contracts. However, the board of directors now recognizes the need to become more market-orientated to remain competitive in the business-to-business (B2B) sector. Construction firms are increasingly demanding 'green aggregates' – raw materials such as limestone and clay that are supplemented with recycled products to make concrete, helping to improve the sustainability of new buildings.

Leveraging its new recycling capabilities, *ABC* aims to create a unique selling point (USP) by being the world's first mass producer of concrete that incorporates shredded plastic recovered from e-waste. This application is a partial replacement for conventional aggregates (like sand or gravel) to create more environmentally sustainable, lightweight concrete.

This strategy is designed to differentiate *ABC* from smaller competitors that still rely on traditional, high-emission production methods. The Marketing Director is also exploring new revenue streams, such as selling recovered precious metals like silver, gold, and platinum directly to industrial manufacturers.

The rapid diversification into the high-tech recycling sector has caused some internal conflict between stakeholders within *ABC's* tall organizational structure. For decades, the company maintained a rigid chain of command with an autocratic leadership style, which was effective for the repetitive tasks of cement manufacturing. However, the scientists and technicians in the e-waste facility require an environment that fosters creativity and product development.

Recent exit interviews* show that 15% of skilled technicians in the recycling division resigned because of heavy bureaucracy and limited delegation. To address these challenges, the HR Director proposes adopting a more democratic leadership style. She believes that empowering employees through job enrichment and teamwork will boost motivation and reduce labour turnover (the rate at which employees leave a company per time period). The HR Director is also considering performance-related pay (PRP) for the recycling team, linked to the purity and hence value of the metals recovered.

ABC's recent capital expenditure on solar panels and plastic-shredding machinery has temporarily weakened its liquidity position, reflected in a falling current ratio. Despite these short-term constraints, the board of directors is evaluating several growth opportunities to take advantage of its first-mover position.

Option 1 – Internal growth through the construction of a second e-waste factory in a neighbouring region in Country Z. This would allow *ABC* to achieve greater economies of scale and secure a larger market share in the regional recycling industry.

Option 2 – External growth through a joint venture with a specialized *TN Enterprises (TNE)*, a large European technology firm. This growth method would provide *ABC* with advanced research into the safe extraction of toxic metals, further reducing the environmental risks associated with its current production processes.

As *ABC* reviews its 2026 strategy, the board of directors faces growth uncertainty amid global geopolitical risks. *ABC* must balance the costs of growth, shareholder expectations, and environmental pressures while safely managing toxic e-waste. The board members currently prefer to keep *ABC* as a traditional concrete producer although the COO suggests the company needs to adopt a circular business model to be more sustainable.

* An **exit interview** is a meeting between a departing employee and their employer (usually someone from the HR department) to discuss why the employee is leaving, their experiences at the company, and suggestions for improvement.

Organizations, products, or individuals named in this case study are fictitious and any similarities with actual entities are purely coincidental.

SECTION A

Students of Cambridge High School, answer **all** questions from this section.

1. Define the term *publicly held company* (line 1). [2]

2. State **two** features of an autocratic leadership style (line 50). [2]

3. Describe **one** possible external stakeholder group of *ABC*, **other than** jewellery makers. [2]

4. Explain **one** advantage and **one** disadvantage for *ABC* of having a tall organizational structure (line 49). [4]

5. Explain **two** benefits for *ABC* of becoming more market-orientated (line 17). [4]

6. Explain **two** advantages and **one** disadvantage for *ABC* of outsourcing its hazardous waste disposal (lines 29-33). [6]

SECTION B

Answer **one** question from this section.

7. Discuss whether *ABC* should shift from its traditional product-orientated approach to fully embrace a market-orientated strategy to secure its long-term success. [10]

8. Evaluate *ABC's* board members preference to keep *ABC* as a traditional concrete producer rather than adopt a more circular business model (lines 73-75). [10]

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ1 (B)

For May 2026 examinations

1 hour 30 minutes

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The launch of the recycling operations at *ABC* has significantly changed its corporate identity, shifting the business towards a circular model that prioritises environmental sustainability. Although *ABC's* core activity remains concrete manufacturing, the highly carbon-intensive nature of traditional cement production is under increasing scrutiny from local pressure groups. To reduce this impact, the Chief Operations Officer (COO) has begun a transition to renewable energy by installing large-scale solar panels at the factory. This investment is expected to provide a reliable power supply for the plastic-shredding machinery used to separate non-metallic materials from e-waste.

However, processing a growing number of circuit boards as e-waste introduces new operational hazards. Discarded electronic components often contain toxic metals, such as lead and mercury, which require specialised handling to prevent contamination of local landfill sites and groundwater.

This is because improper disposal or incineration of these materials releases toxins that can contaminate soil and water. These substances can damage the human nervous system, kidneys, and liver. Therefore, failure to manage these hazardous materials effectively could result in severe legal penalties and damage the positive corporate social responsibility (CSR) reputation that *ABC* has worked hard to establish. This goes beyond meeting regulatory safety and quality standards.

ABC has historically operated with a product-orientated focus, relying on its position as the largest producer in Country Z to secure government contracts. However, the board of directors now recognizes the need to become more market-orientated to remain competitive in the business-to-business (B2B) sector. Construction firms are increasingly demanding 'green aggregates' – raw materials such as limestone and clay that are supplemented with recycled products to make concrete, helping to improve the sustainability of new buildings.

Leveraging its new recycling capabilities, *ABC* aims to create a unique selling point (USP) by being the world's first mass producer of concrete that incorporates shredded plastic recovered from e-waste. This application is a partial replacement for conventional aggregates (like sand or gravel) to create more environmentally sustainable, lightweight concrete.

This strategy is designed to differentiate *ABC* from smaller competitors that still rely on traditional, high-emission production methods. The Marketing Director is also exploring new revenue streams, such as selling recovered precious metals like silver, gold, and platinum directly to industrial manufacturers.

The rapid diversification into the high-tech recycling sector has caused some internal conflict between stakeholders within *ABC's* tall organizational structure. For decades, the company maintained a rigid chain of command with an autocratic leadership style, which was effective for the repetitive tasks of cement manufacturing. However, the scientists and technicians in the e-waste facility require an environment that fosters creativity and product development.

Recent exit interviews* show that 15% of skilled technicians in the recycling division resigned because of heavy bureaucracy and limited delegation. To address these challenges, the HR Director proposes adopting a more democratic leadership style. She believes that empowering employees through job enrichment and teamwork will boost motivation and reduce labour turnover (the rate at which employees leave a company per time period). The HR Director is also considering performance-related pay (PRP) for the recycling team, linked to the purity and hence value of the metals recovered.

ABC's recent capital expenditure on solar panels and plastic-shredding machinery has temporarily weakened its liquidity position, reflected in a falling current ratio. Despite these short-term constraints, the board of directors is evaluating several growth opportunities to take advantage of its first-mover position.

Option 1 – Internal growth through the construction of a second e-waste factory in a neighbouring region in Country Z. This would allow *ABC* to achieve greater economies of scale and secure a larger market share in the regional recycling industry.

Option 2 – External growth through a joint venture with a specialized TN Enterprises (TNE), a large European technology firm. This growth method would provide *ABC* with advanced research into the safe extraction of toxic metals, further reducing the environmental risks associated with its current production processes.

As *ABC* reviews its 2026 strategy, the board of directors faces growth uncertainty amid global geopolitical risks. *ABC* must balance the costs of growth, shareholder expectations, and environmental pressures while safely managing toxic e-waste. The board members currently prefer to keep *ABC* as a traditional concrete producer although the COO suggests the company needs to adopt a circular business model to be more sustainable.

* An **exit interview** is a meeting between a departing employee and their employer (usually someone from the HR department) to discuss why the employee is leaving, their experiences at the company, and suggestions for improvement.

Organizations, products, or individuals named in this case study are fictitious and any similarities with actual entities are purely coincidental.

SECTION A

Students of Cambridge High School, answer **all** questions from this section.

1. Define the term *market-orientated* (line 17). [2]

2. State **two** features of a publicly held company (line 1). [2]

3. Describe the role of **one** possible internal stakeholder group of *ABC*. [2]

4. In the context of *ABC*, distinguish between capital expenditure (line 60) and revenue expenditure. [4]

5. Explain **two** roles of branding in helping *ABC* differentiate its "green aggregates" from competitors (lines 37-39). [4]

6. Explain **two** advantages and **one** disadvantage for *ABC* of introducing performance-related pay (PRP) for the recycling team (lines 57-59). [6]

SECTION B

Answer **one** question from this section.

7. Recommend whether *ABC* should pursue internal growth by constructing a second e-waste factory (**Option 1**) **or** external growth through a joint venture with a European technology firm (**Option 2**). [10]

8. Discuss whether installing solar panels and plastic-shredding machinery (line 60) enables *ABC* to achieve its CSR goals (line 32) without compromising its liquidity position (line 61). [10]

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ2 (A)

For May 2026 examinations

1 hour 30 minutes

Instructions to candidates

- Do not open this examination paper until you have been instructed to do so.
- Read the case study carefully.
- Section A: answer **all** questions.
- Section B: answer **one** question from a choice of two.
- You are permitted to use a calculator for this examination paper.
- The maximum mark available for this paper is **[30 marks]**.

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Organizations, products, or individuals named in this case study are fictitious and any similarities with actual entities are purely coincidental.

Abraca (ABC)

Abraca (ABC), a publicly held company, is Country Z's largest concrete producer. *ABC* purchases large quantities of limestone and clay aggregates to manufacture cement to make concrete. Half of the world's buildings are made from concrete.

As part of *ABC's* research into using recycled products as aggregates in concrete, *ABC's* scientists discovered, by chance, a process to recover gold and other precious metals from electronic circuit boards (e-waste) at room temperature. Previously, the only way to recover precious metals from circuit boards was by burning them at extremely high temperatures, which is a carbon-intensive process. Circuit boards from discarded electronic products, such as computers, mobile (cell) phones and games consoles, create 50 million tonnes of e-waste globally every year. Only 20% of this e-waste is recycled, with 80% of it going to landfill.

In 2024, *ABC* opened a factory to process e-waste. Weekly, this factory processes 100 tonnes of circuit boards. Annually, it recovers hundreds of kilograms of gold, which *ABC* sells to jewellery makers.

ABC is considering:

- increasing efficiencies in its current concrete production
- methods to reduce its impact on the environment
- becoming more market-orientated
- growth options.

The transition into e-waste processing has also prompted the board of directors to redefine the company's identity. *ABC* recently published a new mission statement: *"To build a sustainable future by converting global waste into the foundations of tomorrow."* To achieve this, the board has set a strategic objective to generate 30% of total revenue from the recycling division by 2030.

To align with the government of Country Z's push for organizations to adopt circular business models, *ABC* is moving from a traditional linear model to a resource recovery model. This involves expanding its operations to extract precious metals from circuit boards and repurpose the remaining materials.

The remaining plastics can be shredded and tested for reuse as aggregates for the making pavements (sidewalks), pathways, and kerbs (curbs). These applications can safely include recycled materials, which makes production more sustainable and lower costs while reducing landfill e-waste and raw material use. This is important to avoid contamination or legal penalties.

ABC is also piloting a circular supply model in which shredded plastics recovered from e-waste replace some limestone and clay aggregates in its standard concrete mixes. This cut costs by reducing *ABC's* reliance on raw materials and lowering landfill and waste management expenses, aligning with its corporate social responsibility (CSR) and the country's strict environmental laws.

Using recycled plastics reduces energy use and environmental impacts, while strengthening *ABC's* sustainability credentials and creating a clear point of differentiation in the business-to-business (B2B) concrete market, especially for environmentally conscious customers.

Historically, *ABC* has been a product-orientated business, focusing on the high-volume manufacturing of standard cement. However, following a series of focus groups with major construction firms, *ABC's* Marketing Director discovered a high demand for eco-friendly building materials. This shift toward market orientation led *ABC* to develop "Eco-Crete", a differentiated, environmentally friendly product that uses recycled products as core components.

ABC conducted quantitative research on market size and qualitative research to understand customer perceptions of "green" building materials. The findings showed that while *Eco-Crete* has a clear unique selling proposition (USP), some customers are concerned about the long-term durability of concrete containing plastic. To address this, *ABC's* marketing planning now includes an educational promotional strategy to highlight the technical reliability of their new aggregates.

ABC currently uses flow production for its standard concrete to achieve economies of scale. In contrast, the e-waste facility uses batch production to manage the various types of incoming electronics separately. The process involves specialized plastic-shredding machinery that separates non-metallic waste from toxic metals like lead, cadmium, and mercury.

To manage the hazardous nature of these toxic metals, *ABC* has recently outsourced the final disposal stage to a specialized chemical treatment firm. While outsourcing should reduce *ABC's* direct operational risk, it increases the variable costs per tonne processed. The Chief Operations Officer (COO) has also approved the installation of new solar panels at all factory sites to provide a renewable energy source for the energy-heavy shredding machinery.

ABC's growth and tall organizational structure have exposed several barriers to communication. Scientists and technicians in the recycling facility often use technical jargon that the directors, who come from traditional engineering or business management backgrounds, struggle to understand. At times, this misalignment of communication has led to delays in approval for new projects.

Furthermore, the leadership style at *ABC* remains largely autocratic. While this was effective for the repetitive nature of concrete manufacturing, it has caused a decline in motivation among the highly skilled scientists and e-waste recycling team. The team has expressed a desire for more delegation and a democratic leadership style to problem-solving. Feedback from employees suggests that heavy bureaucracy and the formal chain of command are restricting creativity.

The relationship between investment, profit, and cash flow is currently under strain. The high capital expenditure required for the new e-waste factory and solar panels has resulted in a negative net cash flow in the short term, despite the high profit margins on gold sales to jewellery makers. To fund further growth, *ABC* is looking at external sources of finance, specifically loan capital and a potential new share issue.

Using the Ansoff matrix, the board is evaluating two growth options:
Option 1: *Product development* – Launching a range of premium *ABC* "Eco-Tiles" for the business-to-business (B2B) interior design market. This initiative uses *ABC's* resource recovery model to repurpose shredded plastic from circuit boards as aggregates for high-value decorative concrete. While this creates a differentiated, high-margin revenue stream, limited brand awareness in the design market may require costly marketing.

Option 2*: Market development* – This involves exporting *ABC's* room-temperature metal recovery technology to neighbouring Country Y. This could exploit *ABC's* sustainability advantage over carbon-intensive rivals, but differing regulations on toxic metal disposal and communication barriers may increase risk and create diseconomies of scale.

SECTION A

Answer **all** questions from this section.

1. Define the term *mission statement* (line 20). [2]

2. Describe **one** benefit to *ABC* from having a unique selling proposition (USP) (line 44). [2]

3. Distinguish between loan capital and a new share issue as external sources of finance for *ABC* (line 68-69). [4]

4. Explain **one** advantage and **one** disadvantage for *ABC* of using a resource recovery model (lines 24 and 72-73). [4]

5. Describe **one** barrier to communication currently existing within *ABC* (lines 58-59 and lines 78-79). [2]

6. Explain **two** strengths and **one** weakness of *ABC* operating as a concrete manufacturer in Country Z. [6]

SECTION B

Answer **one** question from this section.

7. Discuss whether *ABC* should adopt a more democratic leadership style to improve motivation in its e-waste division (lines 60-64). [10]

8. Evaluate *ABC's* decision to outsource its hazardous waste disposal rather than managing it internally (lines 51-53). [10]

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ2 (B)

For May 2026 examinations

1 hour 30 minutes

Instructions to candidates

- Do not open this examination paper until you have been instructed to do so.
- Read the case study carefully.
- Section A: answer **all** questions.
- Section B: answer **one** question from a choice of two.
- You are permitted to use a calculator for this examination paper.
- The maximum mark available for this paper is **[30 marks]**.

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Abraca (ABC)

Abraca (ABC), a publicly held company, is Country Z's largest concrete producer. *ABC* purchases large quantities of limestone and clay aggregates to manufacture cement to make concrete. Half of the world's buildings are made from concrete.

As part of *ABC's* research into using recycled products as aggregates in concrete, *ABC's* scientists discovered, by chance, a process to recover gold and other precious metals from electronic circuit boards (e-waste) at room temperature. Previously, the only way to recover precious metals from circuit boards was by burning them at extremely high temperatures, which is a carbon-intensive process. Circuit boards from discarded electronic products, such as computers, mobile (cell) phones and games consoles, create 50 million tonnes of e-waste globally every year. Only 20% of this e-waste is recycled, with 80% of it going to landfill.

In 2024, *ABC* opened a factory to process e-waste. Weekly, this factory processes 100 tonnes of circuit boards. Annually, it recovers hundreds of kilograms of gold, which *ABC* sells to jewellery makers.

ABC is considering:

- increasing efficiencies in its current concrete production
- methods to reduce its impact on the environment
- becoming more market-orientated
- growth options.

The transition into e-waste processing has also prompted the board of directors to redefine the company's identity. *ABC* recently published a new mission statement: *"To build a sustainable future by converting global waste into the foundations of tomorrow."* To achieve this, the board has set a strategic objective to generate 30% of total revenue from the recycling division by 2030.

To align with the government of Country Z's push for organizations to adopt circular business models, *ABC* is moving from a traditional linear model to a resource recovery model. This involves expanding its operations to extract precious metals from circuit boards and repurpose the remaining materials.

The remaining plastics are shredded and reused as aggregates for making pavements (sidewalks), pathways, and kerbs (curbs). These applications can safely include recycled materials, which makes production more environmentally sustainable, lowers costs, and reduces landfill waste and raw material use. This improves *ABC's* commitment to corporate social responsibility (CSR).

In addition, *ABC* is piloting a circular supply model in which shredded plastic recovered from e-waste replaces a portion of limestone and clay aggregates in standard concrete mixes. This helps *ABC* reduce costs by decreasing its reliance on pure raw materials and lowering landfill and waste management expenses, as well as avoid environmental contamination and legal penalties.

Furthermore, using recycled plastic reduces energy use and environmental impacts, while strengthening *ABC's* sustainability credentials and creating a clear point of differentiation in the business-to-business (B2B) concrete market and limits regulatory pressures.

Historically, *ABC* has been product-orientated, focusing on high-volume production of standard concrete, which is carbon-intensive. However, following a series of focus groups with major construction firms, *ABC's* Marketing Director discovered high demand for eco-friendly building materials. This shift toward market orientation has led *ABC* to develop "Eco-Crete", a differentiated product that uses recycled products as core components of concrete.

ABC conducted quantitative research on market size and qualitative research to understand customer perceptions of "green" building materials. The findings showed that while *Eco-Crete* has a clear unique selling proposition (USP), some customers are concerned about the long-term durability of concrete containing plastic. To address this, *ABC's* marketing planning now includes a promotional campaign to highlight the technical reliability of their new aggregates.

ABC currently uses flow production for its standard concrete to achieve economies of scale. In contrast, the e-waste facility uses batch production to process the various types of incoming electronics separately. This production method involves specialized plastic-shredding machinery that separates non-metallic waste from toxic metals like lead, cadmium, and mercury.

To manage the hazardous nature of these toxic metals, *ABC* has recently outsourced the final disposal stage to a specialized chemical treatment firm. While outsourcing should reduce *ABC's* direct operational risk, it increases the variable costs per tonne processed. The Chief Operations Officer (COO) has also approved the installation of new solar panels at all factory sites to provide a renewable energy source for the energy-heavy shredding machinery.

The company's growth has exposed several barriers to communication. Scientists in the recycling facility often use technical jargon that the board of directors, who come from traditional engineering or business management backgrounds, struggles to understand. At times, this misalignment of communication has led to delays in approving new projects.

Furthermore, the leadership style at *ABC* remains largely autocratic. While this was effective for the repetitive nature of concrete manufacturing, it has caused a decline in motivation among the scientists and e-waste recycling division. The technology team has expressed a desire for more delegation and a democratic leadership style to problem-solving. Feedback from employees suggests that the current chain of command is restricting creativity.

The relationship between investment, profit, and cash flow is currently under strain. The high capital expenditure required for the new e-waste factory and solar panels has resulted in a negative net cash flow in the short term, despite the high profit margins on gold sales to jewellery makers. To fund further growth, *ABC* is looking at external sources of finance, specifically loan capital and a potential new share issue.

Using the Ansoff matrix, the board is evaluating two growth options:
Option 1: *Product development* – Launching a range of premium *ABC* "Eco-Tiles" for the business-to-business (B2B) interior design market. This initiative uses *ABC's* resource recovery model to repurpose shredded plastic from circuit boards as aggregates for high-value decorative concrete. While this creates a differentiated, high profit margin revenue stream, limited brand awareness in the design market may require costly marketing.

Option 2*: Market development* – This involves exporting *ABC's* room-temperature metal recovery technology to neighbouring Country Y. This may enable *ABC* to form collaborations with local firms or government bodies and license its technology, generating additional revenue. It could also exploit *ABC's* sustainability advantage over more carbon-intensive rivals. However, differing regulations on toxic metal disposal and communication barriers may increase risk and lead to diseconomies of scale.

SECTION A

Answer **all** questions from this section.

1. Define the term *circular supply model* (line 30). [2]

2. State **two** features of a democratic leadership style (line 63). [2]

3. Distinguish between quantitative and qualitative research *ABC* conducted for "Eco-Crete" (lines 40-45). [4]

4. Explain **two** advantages of *ABC's* e-waste facility using batch production to process the various types of e-waste (lines 48-50). [4]

5. Explain **one** consequence of barriers to communication between *ABC's* scientists and the board of directors (lines 56-58) **other than** delayed decision making. [2]

6. Explain **two** ways in which *ABC* is improving its corporate social responsibility (CSR) and **one** way it is not (line 29). [6]

SECTION B

Answer **one** question from this section.

7. Using the Ansoff matrix, evaluate whether *ABC* should pursue product development (Option 1: Eco-Tiles) **or** market development (Option 2: exporting technology) to secure its long-term financial success. [10]

8. Discuss whether *ABC* should use loan capital **or** a new share issue (lines 65-69) to finance its various growth plans. [10]

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ1 Mark Scheme (A)

For May 2026 examinations

TEACHERS' NOTES

- These are suggested answers only.
- Teachers should use their professional judgement in awarding answers that may not be included in this mark scheme.
- The data and information included are provided for illustrative purposes only to give students practise for the final examination in May 2026.
- While there is no need to include any HL content, students should be awarded accordingly if the inclusion of such content directly addresses the demands of the question.

SECTION A

1. Define the term *publicly held company* (line 1). [2]

A publicly held company is a business entity that has issued shares to the general public, which are typically bought and sold on a stock exchange. This means ownership is separated from management while shareholders have limited liability.

*Award **[1]** for a basic definition that shows partial knowledge of the term publicly held company.*

*Award **[2]** for a clear and accurate definition of a publicly held company, similar to the example above.*

Application and examples are <u>not</u> required.

2. State <u>two</u> features of an autocratic leadership style (line 50). [2]

Possible features could include:

- Decision-making is centralized, with leaders making decisions without consulting employees.
- A clear chain of command, with strict control and close supervision of subordinates.
- Limited delegation of authority, as managers retain most power and responsibility.
- Communication is mainly one-way (top-down), with little opportunity for employee participation or feedback.

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

Note: no description or application is required.

3. Describe <u>one</u> possible external stakeholder group of *ABC*, <u>other than</u> jewellery makers. [2]

Possible external stakeholders could include:

- Government of Country Z – For example, environmental agencies or other governing authorities regulating cement production and e-waste processing.
- Construction firms – B2B customers (other companies) purchasing concrete and 'green aggregates' from *ABC*.
- Local communities – Residents living near *ABC's* factories who may be affected by pollution or employment opportunities.

- Pressure groups – Advocacy groups, such as environmental NGOs, monitoring *ABC's* environmental impact and sustainability practices.

Accept any other relevant external stakeholder group of ABC, other than jewellery makers.

*Award **[1]** for identifying a valid/relevant external stakeholder group and an additional **[1]** for a description with application to ABC, up to a maximum of **[2]**.*

***[2]** cannot be awarded if the response lacks application to the case study.*

4. Explain <u>one</u> advantage and <u>one</u> disadvantage for *ABC* of having a tall organizational structure (line 49). [4]

Advantages of a tall organizational structure for *ABC* include an explanation of any one of the following:

- **Clear lines of authority and accountability –** A tall organizational structure creates well-defined roles and a clear chain of command. This is particularly advantageous for *ABC,* the country's largest concrete producer, in its traditional manufacturing operations, where repetitive, large-scale production requires strict supervision and clear responsibility for meeting safety and quality standards (line 33).

- **Effective control in a large organization –** As Country Z's largest concrete producer, *ABC* benefits from a tall organizational structure that allow senior managers to closely monitor operations. This helps ensure compliance with the country's environmental regulations and government contract requirements, reducing the risk of costly legal penalties (lines 31-33).

- **Specialization of management roles –** A tall structure allows managers to focus on specific functions such as production, human resources, or environmental compliance. At *ABC*, this can improve decision-making quality in complex areas like managing hazardous e-waste and overseeing renewable energy investments (lines 26-27).

- **Consistency and standardization of operations –** Multiple hierarchical levels across *ABC's* factories and production facilities help enforce standard operating procedures. This supports consistent concrete quality and safe handling of toxic materials from e-waste (lines 27 and 73), which is essential for maintaining its CSR reputation and meeting stakeholder expectations (lines 32-33).

Disadvantages of a tall organizational structure for *ABC* include an explanation of any one of the following:

- **Slow decision-making –** In a tall organizational structure, decisions must pass through many layers of management. For *ABC*, this can delay responses to market changes, such as the growing demand from construction firms for 'green aggregates' (lines 36-37), reducing its competitiveness in the B2B market.

- **Reduced employee motivation and creativity –** The rigid hierarchy and limited delegation associated with a tall structure can demotivate employees. This is evident at *ABC's* e-waste recycling division, where skilled scientists and technicians resigned due to heavy bureaucracy (lines 53-54), possibly limiting innovation in high-tech recycling processes.

- **Poor communication flow –** Information may become distorted or delayed as it moves up and down the hierarchy. For *ABC*, this could increase operational risks when handling toxic materials, as delays or miscommunication could lead to safety breaches or non-compliance with regulations in Country Z, such as improper disposal or incineration of toxic materials (line 29).

- **Higher labour and administrative costs –** A tall structure requires more managers and supervisors, increasing HR-related costs, such as wages, salaries, and administrative expenses. Given *ABC's* weakened liquidity position after recent capital expenditure (lines 60-61), these higher fixed costs could place additional financial pressure on the company.

Accept any other relevant advantage or disadvantage, explained in the context of the case study.

*Mark as **[2]** + **[2]**.*

*Award **[1]** for an advantage explained **[1]** and an additional **[1]** for a development with application to ABC. Award a maximum of **[2]**.*
***[2]** cannot be awarded if the response lacks application to ABC.*

*Award **[1]** for a disadvantage explained **[1]** and an additional **[1]** for a development with application to ABC. Award a maximum of **[2]**.*
***[2]** cannot be awarded if the response lacks application to ABC.*

5. Explain <u>two</u> benefits for *ABC* of becoming more market-orientated (line 17). [4]

Possible benefits for *ABC* of becoming more market-orientated include:

- **Better alignment with customer needs –** By becoming more market-orientated, *ABC* would focus on identifying and responding to the needs of construction firms demanding 'green aggregates' (line 37). This allows *ABC* to adapt its concrete products to include recycled materials, increasing customer satisfaction and strengthening long-term B2B relationships.

- **Improved competitiveness –** A market-orientated approach encourages *ABC* to develop a clear USP by being the first mass producer of concrete incorporating shredded plastic from e-waste (lines 40-42). This strategy can help *ABC* defend its market share against smaller competitors using traditional, high-emission methods. It also helps to maintain *ABC's* positive CSR (lines 32-33) and meet shareholder and environmental expectations (lines 72-73).

- **Increased sales revenue –** Understanding market trends, customer preferences, and sustainability needs enables *ABC* to target growth opportunities more effectively (line 18). For *ABC*, this could lead to higher demand for environmentally friendly concrete, as well as gold extracted from e-waste, increasing the company's sales and supporting its future growth opportunities.

- **Reduced risk of product failure –** A market-orientated business is more likely to use market research before launching new products. For example, this reduces the risk of *ABC* investing heavily in recycled-material concrete (line 37-39) that does not meet construction firms' performance or regulatory expectations.

Accept any other valid benefit, explained in the context of the case study.

*Mark as **[2]** + **[2]**.*

*Award **[1]** for each relevant benefit and an additional **[1]** for a relevant explanation of that advantage for ABC, up to a maximum of **[2]** for each benefit.*

6. Explain <u>two</u> advantages and <u>one</u> disadvantage for *ABC* of outsourcing its hazardous waste disposal (lines 29-33). [6]

Advantages for *ABC* of outsourcing its hazardous waste disposal include an explanation of any two of the following:

- **Access to specialist expertise –** Outsourcing hazardous waste disposal allows *ABC* to use firms with specialist knowledge and technology for handling toxic materials such as lead and mercury (lines 26-28). This reduces the risk of environmental contamination and helps *ABC* comply with strict health, safety, and environmental regulations.

- **Reduced legal and reputational risk –** Specialist waste contractors are more likely to follow best-practice disposal methods in Country Z. For *ABC*, this lowers the likelihood of legal penalties (fines) or damage to its corporate reputation if hazardous e-waste is incorrectly handled (lines 31-33).

- **Lower costs –** By outsourcing, *ABC* avoids investing in expensive disposal capital equipment as well as extensive and ongoing employee training. This is particularly beneficial given *ABC's* weakened liquidity position following recent capital expenditure on solar panels and machinery (lines 60-61).

- **Managerial focus on core activities –** Outsourcing allows *ABC's* management to concentrate on its core competencies, namely concrete production and developing recycled-material concrete, rather than managing complex and high-risk waste disposal operations (lines 26-27).

Possible disadvantages for *ABC* of outsourcing its hazardous waste disposal include an explanation of any one of the following:

- **Loss of control –** By outsourcing hazardous waste disposal, *ABC* has less direct control over how toxic materials such as lead and mercury are handled (lines 27-28). If the contractor fails to follow correct procedures and regulatory requirements, *ABC* could still be held legally responsible, increasing legal and environmental risks.

- **Risk to corporate (brand) reputation –** *ABC's* positive CSR image (line 32) is closely linked to its circular and sustainable business model (line 20). Any failure by the outsourced firm to dispose of hazardous e-waste responsibly could damage *ABC's* brand reputation with pressure groups, local communities, and environmentally conscious customers (construction companies).

- **Dependence on external suppliers –** Outsourcing creates (over) reliance on third-party contractors. For example, if the waste disposal firm faces capacity issues, industrial action, or financial problems, *ABC's* recycling operations could be disrupted, reducing the company's operational efficiency particularly as it needs to adopt a more circular, sustainable business model (lines 74-75).

Accept any other suitable advantage or disadvantage of outsourcing, explained in the context of the case study.

*Mark as **[2]** + **[2]** + **[2]**.*

*For each point, award **[1]** for a suitable (dis)advantage, and a further **[1]** for the explanation that is written in the context of the case study, up to the maximum of **[6]**.*

*If there is no application shown, award a maximum of **[3]**.*

SECTION B

7. Discuss whether *ABC* should shift from its traditional product-orientated approach to fully embrace a market-orientated strategy to secure its long-term success. ***[10]***

A market-orientated business is one that bases its decisions and products on identifying and responding to the needs and wants of customers, using market research to develop goods and services that meet demand more effectively than competitors.

Arguments for *ABC* shifting to a fully market-orientated strategy:

- **Meeting changing customer demand –** Construction firms increasingly demand "green aggregates" (lines 37-39). By focusing on market needs, *ABC* can develop sustainable concrete products that better satisfy client requirements and maintain its B2B competitiveness.

- **Creating a competitive advantage –** Market orientation allows *ABC* to leverage its recycling capabilities to become the world's first mass producer of concrete incorporating shredded plastic from e-waste (lines 40-42). This gives the company a clear USP and differentiates the *ABC* brand from smaller competitors using traditional, high-emission production methods (lines 44-45).

- **Increasing revenue opportunities –** Understanding market trends and customers' changing needs supports new revenue streams for *ABC*, such as selling recovered precious metals directly to industrial manufacturers (lines 45-46). Aligning products with changing market demand can boost *ABC's* sales, profitability, and long-term economic (financial) sustainability.

- **Improving corporate reputation and CSR alignment –** Market-orientated strategies support the use of more environmentally sustainable products like lightweight concrete (line 43) that enhance *ABC's* positive CSR image that the company has worked hard to establish (lines 32-33). This helps maintain trust with stakeholders, such as pressure groups, local communities, and environmentally conscious clients (construction companies and jewellery makers).

- **Encouraging innovation and flexibility –** A market focus can foster product development and creative solutions in the recycling division (lines 53-59), reducing turnover of skilled technicians (currently 15% per year) and supporting operational growth.

Counterarguments / reasons why *ABC* might maintain a product-orientated approach include:

- **Established market dominance –** ABC is already the largest concrete producer in Country Z (line 5) and secures government contracts without needing to respond to market trends (lines 34-35). Shifting focus to become market-oriented might distract *ABC* from a stable and profitable core business model.

- **High costs of transformation –** Capital expenditure on solar panels and plastic-shredding machinery has already weakened liquidity (lines 60-61). Expanding market-oriented operations or fully shifting focus could strain resources further and increase financial risks.

- **Operational complexity –** The recycling division requires creativity and democratic leadership, which clashes with *ABC's* historically autocratic structure (lines 49-50). A sudden shift could further increase bureaucracy, reduce efficiency in concrete production, and cause more resignations (lines 53-54).

- **Uncertainty and external risks –** Global geopolitical risks and market volatility (lines 71-72) could make heavy investment in market-driven strategies risky. Maintaining a product-orientated approach allows *ABC* to rely on established production processes and government-backed contracts (lines 34-35).

Conclusion

Note that candidates can provide any conclusion, so long as the arguments are clear and substantiated. For example, While *ABC* has historically been product-orientated and enjoys dominance in traditional concrete production through government contracts, the case study shows that the business environment is changing. Construction firms increasingly demand sustainable "green aggregates" (lines 37-39), and competitors continue to use high-emission methods (lines 44-45), giving *ABC* an opportunity to differentiate itself with a unique selling point (line 40). Moreover, a market-orientated approach would support new revenue streams from recycled precious metals (lines 46-47) and strengthen *ABC's* CSR reputation (line 32), while fostering innovation and reducing labour turnover in the recycling division (lines 53-57).

However, shifting fully to a market-orientated strategy carries financial and operational risks. *ABC's* recent capital expenditure has weakened its liquidity position (line 61), and internal conflict between autocratic management and the collaborative recycling team could reduce efficiency (lines 55-56). In addition, global geopolitical risks and a volatile external environment create uncertainties for major growth initiatives (lines 71-75). Hence, maintaining a partial product-orientated approach allows *ABC* to rely on established contracts and operational stability for the time being.

Overall, the evidence suggests that while a complete shift to market orientation presents financial and operational challenges, gradually increasing market-orientation is the most balanced and pragmatic approach. By responding to customer demand for sustainable concrete and the safe extraction of toxic metals from discarded circuit boards, *ABC* can strengthen its long-term competitiveness and financial success.

Limitations

Limitations of the stimulus, which would otherwise improve the objectivity of the conclusion (whether *ABC* should move from a product-oriented to a market-oriented strategy to ensure long-term success) include:

- **Limited financial data –** The case study mentions weakened liquidity due to capital expenditure (lines 60-61), but there are no detailed financial statements, such as profit margins, cash flow, or investment appraisal. Without this data, it is difficult to fully assess whether *ABC* can afford a complete shift to market-orientation or invest in further growth initiatives.

- **Unclear market demand (market size) –** While the case study notes that construction firms are increasingly requesting green aggregates (lines 36-37), there are no quantitative figures on market size, growth potential, or competitor market share. This makes it hard to evaluate whether the investment in a market-orientated strategy will deliver long-term commercial success for *ABC*.

- **Limited information on stakeholder reactions –** The case study highlights internal conflict between autocratic management and a recycling division that where job enrichment and teamwork are proposed (lines 55-57). It also mentions pressure groups (lines 20-22), but it does not detail how key external stakeholders, such as government agencies or major construction clients, might respond to ABC's market-oriented changes. This uncertainty reduces confidence in predicting strategic outcomes or making a recommendation for the company's strategic direction.

- **Short-term versus long-term risks are not quantified –** Although global geopolitical risks and operational hazards from e-waste are mentioned (lines 71-75 and 26-33), the case study provides no data on potential financial losses, regulatory penalties, or environmental impact costs. Without this, it is difficult to weigh the benefits of a market-oriented strategy against the associated risks in an accurate way.

Candidates can make any conclusion so long as this is substantiated, and the line of argument is based on the evidence presented in the response.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided (unbalanced).*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

8. Evaluate the board members preference to keep *ABC* as a traditional concrete producer rather than adopt a more circular business model (lines 73-75). ***[10]***

Reasons in support of *ABC* adopting a more circular, sustainable business model include:

- **Responding to environmental and regulatory pressures –** Traditional cement production is highly carbon-intensive and faces increasing scrutiny from local pressure groups (lines 21-22). By adopting a circular business model (namely resource recovery model) that incorporates recycled precious metals and renewable energy such as solar power, *ABC* can reduce its environmental impact and lower the risk of future regulation, fines, or operational restrictions.

- **Exploiting a first-mover advantage –** *ABC* has already developed a unique process to recover metals from e-waste at room temperature (lines 5-6) and aims to become the first mass producer of concrete using shredded plastic from e-waste (lines 40-42). Adopting a circular business model, such as resource recovery models, allows *ABC* to differentiate itself from competitors and secure long-term competitive advantage before rivals can imitate the technology.

- **Adapting to B2B customer needs –** Construction firms are increasingly seeking 'green aggregates' to enhance the sustainability of new buildings (lines 35-39). By adopting a circular business model, ABC aligns its products with customer expectations, becomes more market-oriented, and strengthens its ability to secure future contracts beyond traditional government projects.

- **Creating new revenue streams –** *ABC* currently sells recovered gold to jewellery makers and is exploring direct sales of precious metals to industrial manufacturers (lines 45-47). A circular business model allows *ABC* to maximise value from waste, reduce reliance on traditional concrete sales (especially given the growing environmental concerns), and diversify sources of revenue.

- **Enhancing CSR and brand reputation –** *ABC's* recycling operations have already strengthened its corporate identity and CSR reputation (lines 30-33). Fully adopting a circular business model reinforces this positive image, building trust with pressure groups, local communities, and customers (such as environmentally conscious construction companies and jewellery makers), supporting *ABC's* long-term success.

- **Improving long-term sustainability –** Cement production faces increasing criticism for carbon emissions (lines 20-22), while e-waste volumes continue to rise (lines 64-66). Adopting a genuine circular business model helps *ABC* future-proof its operations by aligning growth with global sustainability trends instead of relying solely on a traditionally carbon-intensive manufacturing industry.

Counterarguments, in support of why *ABC* should maintain its traditional concrete production focus, include:

- **Strong market presence with government support –** *ABC* is Country Z's largest concrete producer (line 1) and has historically secured government contracts due to its scale and reliability (lines 34-35). Maintaining focus on its traditional product (concrete) helps protect a stable and predictable revenue stream without exposing *ABC* to the uncertainties of newer, less proven markets linked to a more circular business model.

- **Increased financial risk –** Recent capital expenditure on solar panels and plastic-shredding machinery has already weakened *ABC's* liquidity (lines 60-61). Fully adopting a circular business model would require further investment, increasing financial risks and potentially disappointing shareholders who are focused on short-term returns.

- **E-waste operational and safety risks –** Processing e-waste involves hazardous materials such as lead and mercury (lines 27-28), creating significant health, environmental, and legal risks if mismanaged (lines 29-33). Expanding circular business operations increases *ABC's* exposure to these risks and could damage its CSR reputation if incidents occur (lines 32-33).

- **Internal organizational challenges –** *ABC* operates a tall organizational structure with an autocratic leadership style that has historically suited cement production (lines 49-51). However, a shift to a circular business model requires greater creativity, delegation, and democratic leadership, which has already led to internal conflict and staff resignations within the recycling division (lines 50-54).

- **External uncertainties –** The case study highlights growth uncertainty arising from global geopolitical risks (lines 71-72). In this context, maintaining a traditional and well-established business model, focusing on concrete production, may be viewed by the board of directors as a safer option than expanding into newer, more volatile sectors.

Conclusion

Note that candidates can provide any conclusion, so long as the arguments are clear and substantiated in the context of the case study. For example, although *ABC's* board members prefer to keep the business as a traditional concrete producer, the evidence in the case study suggests that this strategy may limit *ABC's* long-term success. While traditional concrete production provides stable sales revenue through government contracts and fits well with *ABC's* existing tall organizational structure, it is also highly carbon-intensive and increasingly under scrutiny from by pressure groups (lines 21-22). Continuing with this approach could expose *ABC* to regulatory risks and reputational damage as sustainability expectations in the construction industry rise.

By contrast, adopting a more circular and sustainable business model allows *ABC* to exploit a first-mover advantage in e-waste recycling and green aggregates on a mass scale, directly responding to growing demand from construction firms for environmentally sustainable materials such as lightweight concrete (lines 40-43).

Adopting a circular business model also enables *ABC* to diversify revenue streams through the sale of recovered precious metals like silver, gold, and platinum directly to industrial manufacturers (lines 46-47) and strengthen its CSR reputation. This is increasingly important for competitiveness in the B2B market. Although this strategy involves higher costs, liquidity pressures, and organizational challenges, these risks can be managed through gradual implementation rather than a complete shift in focus, given concrete is still *ABC's* core activity.

Overall, while the board of director's caution is reasonable given financial and operational risks, *ABC* should move towards a more circular and sustainable business model alongside its core concrete operations. This balanced approach allows *ABC* to protect its existing market position while adapting to environmental pressures and securing long-term competitiveness, making it a more justified strategy than remaining purely a traditional concrete producer.

Candidates can make any conclusion so long as this is substantiated, and the line of argument is based on the evidence presented in the response.

Limitations

Limitations of the stimulus restrict the depth of evaluation and mean the conclusion must rely partly on assumptions rather than fully supported evidence in the case study. For example:

- **Lack of financial data –** The case study mentions weakened liquidity (line 61) but provides no figures on profits, cash flow, or return on investment for either traditional concrete production or circular business activities. Without this information, it is difficult to judge whether *ABC* can financially sustain a shift toward a more circular business model.

- **Uncertainty about long-term demand for green aggregates –** Although construction firms are said to be increasingly demanding sustainable materials, the stimulus provides no quantitative data on market size, growth rates, or customers' willingness to pay for such products. This limits the ability to assess whether circular products, which are often more expensive, will generate sufficient long-term revenue for *ABC*.

- **No information on competitor behaviour –** The case study states that smaller competitors rely on traditional methods (lines 44-45) but does not indicate whether they are developing similar recycling technologies. Without knowing how easily competitors could imitate *ABC's* resource recovery model, it is hard to evaluate the sustainability of *ABC's* competitive advantage.

- **Limited detail of regulatory risks –** While environmental and safety risks related to hazardous e-waste are mentioned (lines 31-32), the stimulus does not outline specific laws, legal penalties, or compliance costs. This makes it difficult to weigh the full risks of expanding circular operations against maintaining traditional concrete production for a sustainable business.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided (unbalanced).*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ1 Mark Scheme (B)

For May 2026 examinations

TEACHERS' NOTES

- These are suggested answers only.
- Teachers should use their professional judgement in awarding answers that may not be included in this mark scheme.
- The data and information included are provided for illustrative purposes only to give students practise for the final examination in May 2026.
- While there is no need to include any HL content, students should be awarded accordingly if the inclusion of such content directly addresses the demands of the question.

SECTION A

1. Define the term *market-orientated* (line 17). [2]

A market-orientated business is one that bases its decisions and products on identifying and responding to the needs and wants of customers, using market research to develop goods and services that meet demand more effectively than competitors.

*Award **[1]** for a basic definition that shows partial knowledge of market-orientated.*

*Award **[2]** for a clear and accurate definition of market-orientated, similar to the example above.*

Application and examples are <u>not</u> required.

2. State <u>two</u> features of a publicly held company (line 1). [2]

Features of a publicly held company include:

- Shares are sold to the general public, usually through a public stock exchange.
- Ownership of the company is separated from control and management, as shareholders appoint a board of directors to run the company.
- Limited liability for shareholders, meaning they can only lose the value of their investment in the worst-case scenario.
- Legal and reporting requirements, including the publication of financial accounts to protect the interest of shareholders (the owners of the company).

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

Note: no description or application is required.

3. Describe the role of <u>one</u> possible internal stakeholder group of *ABC*. [2]

Possible responses include a description of any one of the following internal stakeholder groups:

- **Employees –** Workers involved in concrete manufacturing and e-waste recycling, responsible for operating machinery, handling materials safely, and ensuring *ABC's* production targets are met.
- **Managers (directors) –** People with decision-making power such as the COO, HR Director, and Marketing Director, who oversee operations, implement strategies, and manage staff performance across concrete production and recycling divisions at *ABC*.

- **Board of directors –** Senior leadership team responsible for setting *ABC's* overall corporate strategy, approving investments like solar panels and recycling machinery, and balancing growth, shareholder expectations, and environmental pressures.

- **Shareholders (owners) –** Investors in *ABC* who provide capital and influence major decisions through voting rights at the company's annual general meetings (AGM).

*Award **[1]** for identifying a correct internal stakeholder group and **[1]** for a valid description, written in the context of the case study.*

4. In the context of *ABC*, distinguish between capital expenditure (line 60) and revenue expenditure. [4]

Capital expenditure refers to spending on non-current assets used by *ABC* (for more than one year) and are intended to increase the company's productive capacity. Examples include the installation of large-scale solar panels at the factory (lines 23-24), the purchase of plastic-shredding machinery for e-waste processing (lines 24-25), the construction of the e-waste recycling facility, and any future investment in building a second e-waste factory under Option 1 (lines 64-66). These expenditures are high in value, incurred infrequently, and contribute to *ABC's* long-term growth and sustainability.

Revenue expenditure refers to day-to-day operating costs that are incurred regularly (frequently) to maintain *ABC's* operations and are fully expensed within a short period, usually one year. For *ABC*, examples include wages and salaries for production workers, scientists, and technicians; energy costs when solar power is insufficient; maintenance of existing equipment and machinery; raw materials such as limestone and clay for cement production; and routine waste-handling and safety compliance costs associated with processing hazardous e-waste (line 31).

*Mark as **[2]** + **[2]***

*Award **[1]** for correctly showing understanding of capital expenditure and an additional **[1]** for application to ABC showing the differences from revenue expenditure. Award **[1]** for correctly showing understanding of revenue expenditure and an additional **[1]** for application to ABC showing the differences from capital expenditure. Award a maximum of **[4]**.*

*A maximum **[2]** can be awarded if the response lacks application to the case study, beyond just mentioning ABC.*

5. Explain <u>two</u> roles of branding in helping *ABC* differentiate its "green aggregates" from competitors (lines 37-39). [4]

The various roles of branding in helping *ABC* differentiate its "green aggregates" include an explanation of any two of the following:

- **Creating a unique selling point** (USP) **–** Strong branding can highlight *ABC's* recycled-material concrete as environmentally friendly and innovative, making it stand out from competitors who still use traditional, high-emission production methods (lines 44-45). This USP (competitive advantage) can attract construction firms that seek sustainable building materials and solutions.

- **Building customer trust and loyalty –** A well-established brand reassures clients that *ABC* consistently delivers high-quality, sustainable products. Construction firms may prefer *ABC's* green aggregates because the brand indicates reliability and environmental responsibility (lines 37-39).

- **Supporting premium pricing –** Effective and strong branding can allow *ABC* to charge higher prices for its environmentally sustainable concrete (line 43), as customers may be willing to pay more for products associated with sustainability and CSR practices. This improves the company's profit margins.

- **Enhancing visibility (brand recognition) –** Branding helps *ABC's* green aggregates become easily recognizable in the construction industry. It strengthens awareness of *ABC's* circular, eco-friendly approach (line 20) and creates a perceived value that smaller competitors find difficult to match.

Accept any other suitable response, explained in the context of the case study.

Accept any other valid benefit, explained in the context of the case study.

*Mark as **[2]** + **[2]**.*

*Award **[1]** for each applicable role of branding and an additional **[1]** for a relevant explanation of that role for ABC, up to a maximum of **[2]** for each role.*

*A maximum **[2]** can be awarded if the response lacks application to the case study, beyond just mentioning ABC.*

6. Explain <u>two</u> advantages and <u>one</u> disadvantage for *ABC* of introducing performance-related pay (PRP) for the recycling team (lines 57-59). [6]

Possible advantages for *ABC* of introducing PRP for the recycling team include an explanation of any two of the following:

- **Increases employee motivation –** Linking pay to the purity and value of recovered metals (lines 58-59) encourages operatives, technicians, and scientists to work more efficiently and carefully, boosting productivity in the e-waste recycling division.

- **Reduces labour turnover –** PRP can improve job satisfaction and employee loyalty by rewarding high performance. This also helps *ABC* retain skilled staff in a division that has experienced 15% resignation rates (lines 53-54).

- **Encourages higher quality work –** Employees have a financial incentive to maintain high standards in separating metals and plastics from e-waste, ensuring valuable metals are recovered (lines 5 and 25) and environmental regulations are met, especially as discarded electronic components often contain toxic metals (line 27).

- **Supports organizational objectives –** Implementing PRP aligns employee efforts with *ABC's* business goals of maximising metal recovery, prioritising environmental sustainability (line 20), and creating additional revenue streams from recycled precious metals sold directly to industrial manufacturers (lines 45-47).

Possible disadvantages for *ABC* include an explanation of any one of the following:

- **Encourages unhealthy internal competition –** Employees might focus on individual performance rather than teamwork, which could reduce collaboration in the e-waste recycling division and harm overall productivity. Employees in other departments might also perceive this as an unfair rewards system as they are not entitled to PRP.

- **Increases pressure and stress –** Linking pay to output (the purity and value of recovered precious metals) may create stress among staff in the recycling division, potentially reducing staff morale or leading to mistakes in handling hazardous materials.

- **Potential short-term focus –** *ABC's* employees in the recycling division may prioritise immediate financial rewards over long-term goals, such as environmentally sustainable practices (line 43) or careful handling of toxic metals (lines 27-28), which could conflict with *ABC's* CSR objectives.

- **Higher administrative costs –** Implementing and monitoring a PRP financial rewards system requires additional time, management, and resources to measure employee performance accurately. This adds to *ABC's* ongoing operating costs.

Accept any other suitable advantage or disadvantage of implementing PRP, explained in the context of the case study.

*Mark as **[2]** + **[2]** + **[2]**.*

*For each point, award **[1]** for a suitable (dis)advantage, and a further **[1]** for the explanation that is written in the context of the case study, up to the maximum of **[6]**.*

*If there is no application shown, award a maximum of **[3]**.*

SECTION B

7. Recommend whether *ABC* should pursue internal growth by constructing a second e-waste factory (Option 1) <u>or</u> external growth through a joint venture with a European technology firm (Option 2). ***[10]***

Reasons why *ABC* might want to pursue **internal growth** (Option 1: constructing a second e-waste factory) include:

- **Greater economies of scale –** Constructing a second e-waste factory would allow *ABC* to process larger volumes of circuit boards than the current 100 tonnes per week (lines 11-12). This could lower average costs per unit of precious metals recovered, improving *ABC's* efficiency and profitability in recycling operations.

- **Increased market share –** A second factory in a neighbouring region of Country Z would enable *ABC* to capture a larger share of the growing domestic e-waste recycling market (lines 26 and 66). This strengthens *ABC's* competitive position and reduces the threat from potential new entrants.

- **Full managerial control –** Internal growth allows *ABC* to retain full ownership and control of the recycling operations and processes, including safety standards and environmental compliance (line 33). This is particularly important given the hazardous nature of toxic metals such as lead and mercury and the legal risks associated with mismanagement (lines 27-28).

- **Supports *ABC's* circular business model –** Expanding recycling capacity reinforces *ABC's* move toward a circular and sustainable model by recovering more valuable metals and plastics from e-waste (lines 19-20 and 75). This supports the company's long-term sustainability goals while complementing its core concrete business.

- **Better integration with existing operations –** A second factory can be designed to align with *ABC's* existing recycling technology and renewable energy strategy, such as using solar power and plastic-shredding machinery (line 60). This ensures consistency in quality, processes, and CSR standards across both recycling sites.

However, reasons in favour of why *ABC* should pursue a **joint venture** (Option 2) instead of internal growth include:

- **Access to advanced research and technology –** Partnering with *TNE*, a large European technology firm, would provide *ABC* with expertise in the safe extraction of toxic metals (lines 67-70). This reduces the operational risks of handling hazardous e-waste like lead and mercury (lines 27-28), which could otherwise lead to contamination or legal penalties.

- **Reduced operational and financial risks –** A joint venture means *ABC* share the costs and risks of expansion with *TNE,* the partner company. This is particularly important given *ABC's* weakened liquidity following its recent capital expenditure on solar panels and plastic-shredding machinery (lines 60-61).

- **Faster implementation –** By collaborating with *TNE*, *ABC* can quickly adopt tested technologies and processes rather than investing time and resources in trial-and-error developments for internal growth. This ensures safer and more reliable recycling operations, such as the safe extraction of toxic metals, from the outset (lines 67-69).

- **Access to wider markets –** A second factory is limited to Country Z, i.e., it reduces *ABC's* exposure to the regional (domestic) market. In contrast, a joint venture with *TNE,* a European partner firm, could open opportunities to enter international markets, diversify *ABC's* revenue streams, and strengthen its global competitiveness.

- **Minimises internal strains –** *ABC* already faces internal conflict (lines 48-49), such as between its autocratic management and the creative demands of the recycling division (lines 55-56). A joint venture could alleviate pressure on *ABC's* managers by sharing operational responsibilities with *TNE*.

Accept any other relevant reason/recommendation for Option 1 or Option 2, written in the context of the case study.

Conclusion

Note that candidates can provide any conclusion, recommending Option 1 **or** Option 2, so long as the arguments are clear and substantiated, based on the evidence presented in the response. Both internal growth (Option 1) and a joint venture (Option 2) present opportunities for *ABC* to expand its recycling operations, but they come with different advantages and risks.

An example is provided below for illustrative purposes only.

Constructing a second e-waste factory (**Option 1**) would allow *ABC* to achieve greater economies of scale, increase its regional market share, retain full managerial control, and integrate the new recycling facility seamlessly with existing operations. This growth option strengthens *ABC's* circular business and provides long-term strategic independence while maximising revenue from recovered plastics and precious metals.

However, internal growth (**Option 1**) carries significant financial, operational, and management risks. *ABC's* liquidity has already been weakened by recent capital expenditure on solar panels and plastic-shredding machinery (lines 60-61), and a second factory would require further investment and management attention.

In contrast, a joint venture with *TNE* (**Option 2**) provides access to advanced research and proven technology for safe extraction of toxic metals, shares financial and operational risks, and reduces internal management strain. It also creates potential opportunities in overseas markets and allows *ABC* to innovate without the full capital outlay.

On balance, while internal growth offers greater control and potential long-term returns, the joint venture provides a safer, lower-risk, and strategically flexible path to expanding *ABC's* recycling capabilities. Therefore, *ABC* should pursue external growth (**Option 2**) through a joint venture with *TNE*, as this approach maximises innovation, minimises operational and financial risks, and strengthens its circular business model while protecting the company's liquidity position and managing hazardous e-waste safely and responsibly.

Limitations

Limitations of the stimulus, which would otherwise improve the objectivity of the (any) conclusion include:

- **Lack of detailed financial data –** The case study mentions that *ABC's* liquidity has temporarily weakened due to recent capital expenditure (lines 60-61), but it provides no figures on costs, projected revenues, or profitability for either the second factory (Option 1) or a joint venture (Option 2). Without such financial data, it is difficult to evaluate whether *ABC* can afford internal growth or if the joint venture offers better financial sustainability.

- **Unclear capacity of existing operations –** The stimulus states that the current factory processes 100 tonnes of circuit boards weekly (lines 11-12), but it does not indicate the maximum capacity or efficiency of *ABC's* existing e-waste recycling facility. This makes it challenging to assess how much additional production a second factory would realistically achieve, limiting the ability to compare the two growth options accurately.

- **Limited information on *TNE's* capabilities –** While the case mentions the potential partner's expertise in the safe extraction of toxic materials (lines 67-70), it provides no detail on their reliability, costs, or strategic alignment with *ABC's* goals. This restricts a full assessment of the risks and benefits of forming a joint venture, as there could be challenges in integration, cultural differences, or disagreements over operational control.

- **Lack of market data –** The case study notes growing demand for recycled materials and green aggregates (line 37) but provides no quantitative data on regional or international market size, growth rates, or competitor activity. This limits confidence or certainty in predicting whether internal growth (Option 1) or a joint venture (Option 2) would generate sufficient long-term revenue and competitive advantages.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided (unbalanced).*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

8. Discuss whether installing solar panels and plastic-shredding machinery (line 60) enables *ABC* to achieve its CSR goals (line 32) without compromising its liquidity position (line 61). ***[10]***

Arguments that the investments in solar panels and plastic-shredding machinery support *ABC's* CSR goals include:

- **Reduction of environmental impact –** Installing solar panels provides a renewable energy source for the plastic-shredding machinery (lines 23-25). This reduces reliance on fossil fuels, lowering greenhouse gases and carbon emissions as well as helping *ABC* meet its environmental sustainability objectives.

- **Support for recycling –** The plastic-shredding machinery improves the safe and responsible processing of e-waste by separating non-metallic materials from hazardous components (lines 27-30). This ensures safer waste disposal, protecting soil, water, and human health (lines 30-31), which aligns with *ABC's* CSR commitment to minimise environmental and social harm.

- **Promotion of a circular business model –** The new machinery enables *ABC* to recover precious metals and recycled products to make concrete (lines 38-39), reinforcing a circular, sustainable business approach. This further strengthens *ABC's* positive CSR by demonstrating responsible resource use and waste reduction (lines 32-33).

- **Enhanced corporate reputation –** Investment in renewable energy (like solar panels) and recycling technology (like plastic-shredding machinery) signals to stakeholders, including pressure groups and local communities (line 22), that *ABC* takes environmental responsibility seriously. This improves its corporate image by building stakeholder trust.

- **Compliance with environmental regulations –** Using renewable energy and safer e-waste processing reduces legal and regulatory risks associated with toxic waste (lines 29-32), supporting *ABC's* socially responsible business practices.

- **Supports long-term sustainability strategy –** These investments align with *ABC's* strategic shift toward a circular and sustainable business model (lines 20 and 75), securing its future competitiveness and stakeholder confidence.

Counterarguments (associated with the financial and liquidity risks of the investments) include:

- **High initial capital expenditure –** The purchase and installation of solar panels and plastic-shredding machinery represent significant upfront costs, having temporarily weakened *ABC's* current ratio (lines 60-61). A weakened liquidity limits the company's ability to cover short-term obligations and fund other growth initiatives.

- **Long payback period –** While the investments support CSR goals, the financial benefits (such as reduced energy costs or increased operational efficiency) may take several years to materialise. During this period, *ABC's* cash flow could remain tight, increasing financial strain on the business.

- **Opportunity cost of using funds –** The money spent on solar panels and plastic-shredding machinery could otherwise be used for internal growth (Option 1), joint ventures (Option 2), or other revenue-generating projects. This trade-off may constrain *ABC's* strategic flexibility and limit its short-term profitability.

- **Maintenance and operational costs –** Solar panels and shredding machinery require ongoing maintenance and operational support. These additional costs could further stress liquidity, especially while *ABC* is expanding its recycling operations and investing in e-waste processing.

- **Potential disruption to core operations –** Managing new capital equipment and recycling processes could divert management attention from concrete production and other important revenue-generating activities. This may introduce hidden or unintended costs and operational inefficiencies, affecting *ABC's* overall business performance.

Accept any other relevant and substantiated discussion, written in the context of the case study.

Conclusion

Candidates may draw any conclusion, provided their discussion and arguments are clear and supported, and based on the evidence presented in the response. A balanced conclusion should assess whether installing solar panels and plastic-shredding machinery lets *ABC* achieve its CSR goals without risking liquidity.

Installing solar panels and plastic-shredding machinery clearly supports *ABC's* CSR goals by reducing carbon emissions, enabling safer and more efficient recycling of e-waste, and reinforcing its circular business model (lines 19-20 and 70). These investments enhance *ABC's* corporate reputation, strengthen stakeholder trust, and demonstrate the company's commitment to environmental responsibility, which are central aspects of its CSR objectives (lines 32-33).

However, the case study shows that these investments have already weakened *ABC's* liquidity position (lines 60-61), and ongoing operational and maintenance costs could further strain the company's cash flow. The high initial capital expenditure and potentially long payback period mean that, in the short term, *ABC's* ability to fund other strategic projects may be strictly limited.

On balance, while the solar panels and plastic-shredding machinery advance *ABC's* CSR goals and priorities, they can severely compromise its liquidity at least in the short term. To balance both business objectives, *ABC* could implement a gradual or phased investment strategy, combining CSR improvements with careful financial management to avoid overstretching the company's liquid resources.

Limitations

Limitations of the stimulus include:

- **No quantitative financial data –** The case study mentions weakened liquidity (lines 60-61) but provides no figures on costs, cash flow, or projected savings from the investment in the solar panels and plastic-shredding machinery. Without this data, it is difficult to assess the true financial impact of these environmentally friendly investments.

- **No investment appraisal details –** There is no data about *ABC's* potential payback period or average rate of return (ARR). For example, the stimulus does not indicate how long it will take for energy savings or efficiency gains from the solar panels and plastic-shredding machinery to offset their initial costs. This makes it hard to evaluate whether *ABC's* liquidity position will improve in a reasonable timeframe.

- **Limited information on operational efficiency –** While the case notes the installation of plastic-shredding machinery (line 60), it does not provide data on how much additional e-waste can be processed, or how much more plastics and precious metals can be recovered. This restricts the ability to fully quantify environmental impacts of the investment and financial benefits (and hence *ABC's* liquidity).

- **No detail on alternative funding strategies –** The case does not discuss whether *ABC* could use financing options, grants, or government incentives for renewable energy and recycling technology. This limits the discussion of how CSR goals could be achieved without significantly affecting the company's overall liquidity. Given the market presence and importance of the company in Country Z (line 1), working with the government may be an alternative and plausible solution which would improve its liquidity position.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided (unbalanced)s.*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ2 Mark Scheme (A)

For May 2026 examinations

TEACHERS' NOTES

- These are suggested answers only.
- Teachers should use their professional judgement in awarding answers that may not be included in this mark scheme.
- The data and information included are provided for illustrative purposes only to give students practise for the final examination in May 2026.
- While there is no need to include any HL content, students should be awarded accordingly if the inclusion of such content directly addresses the demands of the question.

SECTION A

1. Define the term *mission statement* (line 20). [2]

A mission statement is a concise declaration of an organization's core purpose, identity, and focus, i.e., why it exists, who it is, and what it does as a business entity. It is a long-term assertion that guides everyday business decisions.

*Award **[1]** for a basic definition that shows partial knowledge of the term mission statement.*

*Award **[2]** for a clear and accurate definition of mission statement, similar to the example above.*

Application and examples are <u>not</u> required.

2. Describe <u>one</u> benefit to *ABC* from having a unique selling proposition (USP) (line 44). [2]

Possible benefits of a USP for *ABC* include a description of any one of the following:

- **Differentiation from competitors –** *Eco-Crete's* use of recycled e-waste plastics and lower carbon impact distinguishes *ABC* from traditional concrete producers (lines 23-24), reducing direct price competition.
- **Ability to charge premium prices –** The sustainability USP allows *ABC* to target environmentally conscious construction firms willing to pay higher prices for "green" building materials (lines 42-43).
- **Stronger brand awareness –** The USP reinforces *ABC's* mission to build a sustainable future (lines 20-21), strengthening its corporate image, brand awareness, and credibility in the B2B market.
- **Increased customer loyalty –** The growing number of construction firms focused on CSR and green building standards may form long-term supply relationships with *ABC* due to its unique sustainable offering (*Eco-Crete* green" building materials).

Accept any other relevant benefit, described in the context of the case study.

*Award **[1]** for identifying a benefit and an additional **[1]** for a description with application to ABC, up to a maximum of **[2]**.*

***[2]** cannot be awarded if the response lacks application to the case study.*

3. Distinguish between loan capital and a new share issue as external sources of finance for ABC (line 68-69). ***[4 marks]***

Loan capital involves *ABC* borrowing funds from financial lenders, like commercial banks, and repaying them with interest. This could help finance the installation of new solar panels at all factory sites (line 54) or e-waste expansion (line 19) but increases cash flow pressure given *ABC's* current negative net cash flow (lines 65-67).

A new share issue raises finance by selling additional shares to investors on a public stock exchange. This does not require interest payments but may dilute existing shareholders' ownership and control of *ABC*.

Essentially, loan capital must be repaid with interest, increasing *ABC's* financial risk and cash-flow pressure. A new share issue does not require such repayment but dilutes existing shareholders' ownership and control.

*Mark as **[2]** + **[2]***

*Award **[1]** for correctly showing understanding of loan capital and an additional **[1]** for application to ABC showing the difference from a new share issue. Award **[1]** for correctly showing understanding of a new share issue and an additional **[1]** for application to ABC showing the difference from loan capital. Award a maximum of **[4]**.*

*A maximum **[2]** can be awarded if the response lacks application to the case study, beyond just mentioning ABC.*

4. Explain <u>one</u> advantage and <u>one</u> disadvantage for *ABC* of using a resource recovery model (lines 24 and 72-73). ***[4 marks]***

Possible advantages of *ABC* using a resource recovery model include an explanation of any one of the following:

- **Lower production costs –** Reusing shredded plastics from e-waste (lines 30-31) reduces *ABC's* reliance on limestone and clay, lowering the costs of raw material, landfill, and waste management (lines 32-33).

- **Improved sustainability –** Recovering precious metals and reusing e-waste reduces environmental impacts, supporting *ABC's* mission *"To build a sustainable future by converting global waste into the foundations of tomorrow"* (lines 20-21), CSR practices (line 33), and government circular economy objectives (line 23).

- **Revenue diversification –** Selling recovered gold and other precious metals (line 5) and developing recycled aggregates (line 26) helps *ABC* generate revenue beyond traditional concrete production.

- **Competitive advantage –** Using a resource recovery model enables products like *Eco-Crete* to strengthen *ABC's* unique selling proposition (USP) (line 44) and appealing to environmentally conscious B2B customers (lines 34-36).

Possible disadvantages of *ABC* using a resource recovery model include an explanation of any one of the following:

- **High capital expenditure –** Setting up e-waste processing machinery and recycling operations for the new e-waste factory requires significant investment, which has already strained *ABC's* liquidity (lines 66-67).

- **Operational complexities –** Adopting a resource recovery model means *ABC* needs to manage different types of e-waste separately, such as plastics, precious metals, and toxic metals, each requiring different handling and treatment methods. The operational complexities increase the risk of errors, contamination, or legal penalties (lines 27-29).

- **Staff and leadership challenges –** A resource recovery model requires creativity and technical expertise, but *ABC's* autocratic leadership style (line 60) and communication barriers (lines 73-74) can further reduce staff motivation and efficiency (line 61).

- **Market approval risks –** Some of *ABC's* customers have expressed concerns about the durability or quality of *Eco-Crete* (the company's concrete that contains recycled plastics). This can potentially limit *ABC's* sales (lines 43-45).

Accept any other advantage or disadvantage for ABC using a resource recovery model, clearly explained in the context of the case study.

*Mark as **[2]** + **[2]**.*

*Award **[1]** for an advantage explained **[1]** and an additional **[1]** for a development with application to ABC. Award a maximum of **[2]**.*

***[2]** cannot be awarded if the response lacks application to ABC.*

*Award **[1]** for a disadvantage explained **[1]** and an additional **[1]** for a development with application to ABC. Award a maximum of **[2]**.*

***[2]** cannot be awarded if the response lacks application to ABC.*

5. Describe <u>one</u> barrier to communication currently existing within *ABC* (lines 58-59 and lines 78-79). *[2 marks]*

Possible barriers to communication within ABC include a description of any one of the following:

- **Use of technical jargon –** Scientists in the recycling facility use complex technical language that board members struggle to understand, causing delays in decision-making (lines 57-59).

- **Autocratic leadership style –** The autocratic, top-down decision-making at *ABC* limits upward communication, reducing feedback from scientists and the recycling team (lines 60-62).

- **Long chain of command –** Information must pass through several management layers, increasing the risk of distortion and slowing approval for new projects (lines 58-59).

- **Limited interaction between departments –** Employees in different departments work in functional silos, i.e., there is limited interaction between traditional concrete managers and recycling scientists. This restricts knowledge sharing and coordination at *ABC*.

Accept any other relevant barrier, described in the context of the case study.

*Award **[1]** for a relevant barrier to communication and an additional **[1]** for a description with clear application to ABC, up to a maximum of **[2]**.*

***[2]** cannot be awarded if the response lacks application to the case study.*

6. Explain <u>two</u> strengths and <u>one</u> weakness of *ABC* operating as a concrete manufacturer in Country Z. ***[6 marks]***

Possible strengths of *ABC* operating as a concrete manufacturer in Country Z include an explanation of any **two** of the following points:

- **Market leadership –** As Country Z's largest concrete producer (line 1), *ABC* benefits from high market share, strong brand recognition, customer loyalty in the B2B market for concrete, and bargaining power with suppliers (of limestone and clay).

- **Economies of scale –** High-volume flow production of standard concrete lowers average costs (line 47), improving *ABC's* price competitiveness and profit margins in the concrete production industry.

- **Established infrastructure –** Existing factories, distribution networks, and skilled labour (line 62) reduce operational risks and support the efficient production of concrete.

- **Stable and stable demand –** Concrete is an essential input in the construction industry, with around half of the world's buildings made from concrete (lines 2-3). As Country Z's largest producer, *ABC* is well positioned to consistently supply this ongoing demand, supporting stable sales revenue.

Possible weaknesses of *ABC* include an explanation of any **one** of the following points:

- **High environmental impact –** Traditional concrete production relies heavily on limestone and clay aggregates, contributing to resource depletion and environmental damage.

- **Limited differentiation –** Standard concrete is largely undifferentiated, making competition price-based and reducing profit margins.

- **Exposure to regulation –** Concrete manufacturing is energy- and carbon-intensive (line 7 – 8), increasing *ABC's* vulnerability to the strict environmental regulations in Country Z (line 33).

- **Product-oriented focus –** *ABC's* historical emphasis on high-volume output rather than customer needs (market orientation) limited its responsiveness to growing demand for environmentally friendly materials in the concrete industry.

Accept any other relevant strength or weakness, appropriately explained in the context of the case study.

*Mark as **[2]** + **[2]** + **[2]**.*

*For each point, award **[1]** for a suitable (dis)advantage, and a further **[1]** for the explanation that is written in the context of the case study, up to the maximum of **[6]**.*

*If there is no application shown, award a maximum of **[3]**.*

SECTION B

7. Discuss whether *ABC* should adopt a more democratic leadership style to improve motivation in its e-waste division (lines 60-64). ***[10 marks]***

Reasons why *ABC* should adopt a more democratic leadership style (to improve motivation in the e-waste division) include:

- **Addresses issues of declining motivation –** *ABC's* autocratic leadership style has led to a deterioration in motivation among scientists and the e-waste recycling team (lines 61-62). A democratic leadership style would involve these employees in decisions about recycling processes and product development, making them feel valued. This is particularly important as the e-waste division relies on highly skilled scientists rather than routine manual labour given the repetitive nature of concrete manufacturing (lines 61-62).

- **Encourages innovation in the e-waste facility –** The e-waste division is responsible for processes such as recovering precious metals at room temperature (lines 5-6) and developing *Eco-Crete* using recycled plastics (lines 40-45). A democratic leadership style encourages idea-sharing and open discussion, which supports innovation and continuous improvement. This contrasts with employee feedback that the current rigid chain of command that restricts creativity at *ABC* (line 64).

- **Improves retention of skilled employees –** *ABC* has experienced dissatisfaction among the e-waste recycling team and highly skilled scientists due to heavy bureaucracy and limited delegation (lines 62-64). By adopting a democratic leadership style, *ABC* could empower these staff members through non-financial methods of motivation such as teamwork and job enrichment. This could improve employee loyalty and help retain skilled workers who are critical to achieving the company's recycling and sustainability objectives.

- **Improves decision-making –** The board of directors at *ABC* come from traditional engineering or business backgrounds (lines 57-58) and may lack specialist knowledge of e-waste processing. Democratic leadership allows the highly skilled scientists to contribute directly to decisions, improving the quality of operational and strategic choices. This is especially important when managing hazardous materials such as lead, cadmium, and mercury (lines 49-50).

- **Supports *ABC's* transition to a circular business model –** *ABC* aims to move from a traditional linear model to a resource-recovery model (lines 23-25) and generate 30% of revenue from recycling by 2030 (lines 21-22). A democratic leadership style increases employee commitment to these strategic objectives by involving them in shaping the company's sustainable future. Motivated employees are more likely to support *ABC's* long-term change and align with its corporate social responsibility (CSR) (line 33).

Reasons (counterarguments) why *ABC* should not adopt a more democratic leadership style in the e-waste division include:

- **Slower decision-making –** The e-waste division handles hazardous materials such as lead, cadmium, and mercury, which require strict controls and fast, decisive action (lines 49-51). A democratic leadership style may slow decision-making for these high-risk operations due to consultation and discussion, increasing operational or compliance risks.

- **Loss of managerial control –** *ABC* has historically operated with a tall organizational structure and a clear chain of command that has been effective for managing large-scale operations (lines 60-64). Introducing democratic leadership could weaken managerial authority and create ambiguity over responsibility, particularly during safety-critical processes in the recycling facility.

- **Conflict with organizational norms –** *ABC* has been shaped over by a traditional autocratic leadership (line 60) and bureaucracy (line 64) in its concrete manufacturing operations. A sudden shift to democratic leadership may cause confusion or resistance among senior managers who are not trained to lead in collaborative and participative ways, reducing its effectiveness.

- **Implementation costs –** Adopting democratic leadership may require training *ABC's* managers, restructuring of the organization (teams), and allocating sufficient time for meetings and consultations. Given that *ABC's* liquidity position has weakened due to recent capital expenditure on the new e-waste factory and solar panels (lines 65-67), these additional restructuring costs may place further pressure on the company's cash flow.

- **Employee conflicts –** Not all employees in the team may want increased responsibility. Some employees in the e-waste division may prefer clear instructions rather than greater involvement in the decision-making process. If responsibilities are increased without adequate support, this could lead to stress or inconsistent performance rather than improved staff motivation.

Accept any other relevant argument (for or against) that is appropriately discussed in the context of the case study.

Conclusion

Accept any substantiated conclusion based on the line of argument presented in the extended response answer. An example is provided below for illustrative purposes only.

Overall, *ABC* should adopt a more democratic leadership style within its e-waste division, but in a targeted and controlled manner rather than across the entire organization. While an autocratic approach may remain effective for *ABC's* mass production of standardised concrete, it is less suitable for the knowledge-based and innovative nature of e-waste recycling.

Specifically, the e-waste division depends on highly skilled scientists and technicians whose motivation has declined due to bureaucracy and limited delegation (lines 57 and 60-62). The team wants more delegation and democratic problem-solving, as bureaucracy and a rigid chain of command are limiting creativity (lines 62-64). Democratic leadership is therefore likely to encourage creativity, innovation, and retention of key employees in the e-waste division.

However, given the hazardous processes involved and *ABC's* tall organizational structure, full democracy could reduce control and slow decision-making. Therefore, a hybrid approach (democratic leadership for idea generation and problem-solving in relevant divisions of the organization, combined with clear managerial authority for safety and compliance where needed) is most likely to improve motivation while supporting *ABC's* circular business model and long-term sustainability objectives.

Limitations

Limitations of the stimulus, which would otherwise improve the objectivity of the conclusion or recommendation include:

- **Lack of information on motivation and productivity data –** The case study states that motivation has declined in the e-waste division (lines 61-62), but provides no numerical data on productivity, absenteeism, or output levels. Without this, it is difficult to judge the scale of the motivation problem or the likely impact of democratic leadership being implemented in the team.

- **No cost implications –** The stimulus does not provide information on the financial costs of implementing a change to the leadership style in the division, such as training managers or restructuring teams for democratic leadership. This limits the ability to evaluate whether the motivational benefits would outweigh the additional costs.

- **Unclear effectiveness of leadership styles –** There is no evidence showing how democratic leadership has worked in similar e-waste recycling firms. Without comparative evidence, it is difficult to assess whether democratic leadership would be more effective than autocratic leadership in the context of *ABC*, given the latter is the organizational norm.

- **No link to long-term performance –** The case study shows employee dissatisfaction (lines 62-63) but does not provide information or data to show how democratic leadership would lead to measurable outcomes such as productivity, innovation, profitability, or the 2030 recycling revenue target (lines 20-22).

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided (unbalanced).*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

8. Evaluate *ABC's* decision to outsource its hazardous waste disposal rather than managing it internally (lines 51-53). ***[10 marks]***

In the context of *ABC*, outsourcing is the practice of hiring an external firm to carry out a business activity or process that would otherwise be done internally. Specifically, *ABC* is contracting a specialised chemical treatment company to handle the hazardous disposal of toxic metals from e-waste (lines 51-52), rather than managing this process with its own employees and facilities.

Reasons why outsourcing hazardous waste disposal is the right decision include:

- **Reduced operational and legal risk –** *ABC's* e-waste contains toxic metals such as lead, cadmium, and mercury, which require specialised handling (lines 49–50). Outsourcing e-waste disposal to a specialised chemical treatment firm reduces the risk of errors, environmental contamination, and non-compliance with regulations. This protects *ABC* from fines and legal action (line 29), safeguarding shareholder value and the company's long-term profitability.

- **Improved CSR –** Improper disposal of hazardous waste could damage *ABC's* corporate social responsibility (CSR) reputation and undermine its sustainability-focused mission (lines 20-22). By outsourcing to experts, *ABC* demonstrates environmental responsibility, benefiting local communities and aligns with government expectations for circular business models (line 23) and the country's strict environmental laws (line 33). Stronger CSR practices can also enhance *ABC's* competitiveness in the B2B market.

- **Access to specialists –** The specialist disposal firm is more likely to have advanced technology and expertise in treating toxic materials safely and responsibly. This is particularly important given *ABC's* rapid diversification into e-waste recycling, an area outside its traditional core competence (line 11). Outsourcing this function allows *ABC* to benefit from best-practice waste management without costly internal investments.

- **Allows management to focus on core activities –** Disposing of hazardous e-waste internally would require significant managerial time, training, and oversight. Outsourcing this function enables *ABC's* management and scientists to focus on value-adding activities such as improving metal recovery processes (lines 72-75) and developing products like *Eco-Crete* (lines 40-45). This can free up management time to improve efficiencies in its current concrete production (line 15) and profitability across the business.

- **Lower long-term costs –** Although outsourcing increases variable costs per tonne processed (line 53), it avoids high fixed costs associated with building and maintaining an in-house disposal facility for the final stage of the process (lines 51-52). Given *ABC's* weakened liquidity position following major capital expenditure (lines 65-67), outsourcing helps preserve cash flow and reduces financial risks, benefiting the company's stakeholder groups such as its shareholders and creditors.

However, reasons why outsourcing hazardous waste disposal may not be the right decision include:

- **Higher variable costs –** The case study states that outsourcing hazardous waste disposal increases the variable cost per tonne processed (lines 51-53). As *ABC* aims to expand its e-waste operations and process larger volumes (lines 19-22), these higher ongoing costs could significantly reduce profit margins and overall profitability. Instead, managing waste disposal internally may become cheaper in the long run due to economies of scale.

- **Loss of control –** Hazardous waste disposal is a key stage in *ABC's* e-waste recycling process, even though it may be the final stage (lines 51-52), particularly given the presence of toxic metals such as lead, cadmium, and mercury (lines 49-50). Outsourcing reduces direct control over how waste is handled, increasing *ABC's* dependence on a third-party provider. Any failure by the contractor could expose *ABC* to legal risks over a critical part of operations.

- **Damage to *ABC's* sustainability positioning –** *ABC* is positioning itself as a leader in circular business models and sustainability, with a mission to convert waste into foundations of the future (lines 19-22). Relying on external firms for hazardous waste disposal may weaken this narrative, as *ABC* is not fully responsible for the entire recycling lifecycle. Managing disposal in-house could strengthen its credibility as a genuinely sustainable business.

- **Risk of supply chain disruption –** Outsourcing final e-waste disposal means total reliance on the external contractor, creating the risk of service delays, contract disputes, or capacity constraints. Any disruption in hazardous e-waste disposal could halt *ABC's* e-waste processing, affecting gold recovery volumes and sales to jewellery makers. This is of particular concern given the company's recent cash flow issues (line 65-67). Instead, internal management would reduce dependency on external contractors.

- **Missed opportunity to develop internal expertise –** By outsourcing, *ABC* may fail to develop its own capabilities in toxic metal treatment, despite rapid growth in the recycling division. Developing internal expertise could support long-term innovation at *ABC*, especially if the company expands into new markets or exports its recycling technology (Option 2). This internal knowledge and expertise could become a strategic asset rather than an external dependency.

Accept any other relevant argument for/against outsourcing, evaluated in the context of the case study.

Conclusion

Candidates can provide any conclusion, so long as the arguments are clear and substantiated. For example, *ABC's* decision to outsource its hazardous waste disposal rather than manage it internally can be justified in the short to medium term, given the company's current strategic priorities and financial position. The presence of highly toxic metals such as lead, cadmium, and mercury means final disposal requires specialist expertise, and outsourcing this function significantly reduces operational, legal, and reputational risks at a time when *ABC* is under scrutiny for its environmental impact.

Furthermore, with liquidity already weakened by recent capital expenditure on the e-waste factory and solar panels, avoiding further fixed costs supports the *ABC's* cash flow and protects shareholder interests.

However, as *ABC's* recycling operations expand and volumes increase, the higher variable costs and loss of operational control may reduce profitability and weaken its sustainability ambitions. Therefore, while outsourcing is the right decision at this stage, *ABC* should regularly review the option of internal disposal once its scale, expertise, and financial stability improve.

Accept any substantiated conclusion/recommendation based on the line of argument presented in the extended response answer.

Limitations

Limitations of the stimulus material that may affect the feasibility and objectivity of the recommendation(s) include:

- **Lack of cost comparison –** The stimulus shows that outsourcing increases variable costs per tonne (lines 52-53) but provides no numerical data on how these costs compare with the fixed and variable costs of managing hazardous waste internally. Without this information, it is difficult to assess the long-term impact on profitability as *ABC's* e-waste volumes increase.

- **No information on the outsourced firm –** The stimulus does not describe the track record, capacity, or environmental performance of the specialised chemical treatment firm. This limits evaluation, as the risks of outsourcing depend heavily on the reliability, reputation, and competence of the external provider.

- **Unclear future scale of e-waste operations –** While *ABC* is expanding its recycling activities, the case study does not indicate projected processing volumes beyond the current 100 tonnes per week. Without knowing this information, or sales forecasts, it is difficult to judge whether internal disposal might become more cost-effective through economies of scale.

- **No stakeholder reaction data –** The stimulus does not include views from external stakeholders such as local communities, regulators, or suppliers regarding outsourcing hazardous waste disposal. This limits the ability to evaluate the decision's wider impact on *ABC's* CSR reputation and stakeholder relationships, as well as its employees and shareholders (owners).

Accept any other relevant limitation, written in the context of the case study.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

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*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

IB Business Management – Paper 1 Case Study Pack

Case Study: Abraca (ABC)

SL and HL Mock Exam TZ2 Mark Scheme (B)

For May 2026 examinations

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SECTION A

1. Define the term *circular supply model* (line 30). [2]

Circular supply models are a category of circular business model that emphasises using renewable, recyclable, or biodegradable materials instead of depleting limited natural resources. It substitutes non-renewable inputs with sustainable alternatives throughout the production processes.

*Award **[1]** for a basic definition that shows partial knowledge of the term circular supply model.*

*Award **[2]** for a clear and accurate definition of circular supply model, similar to the example above.*

Application and examples are <u>not</u> required.

2. State <u>two</u> features of a democratic leadership style (line 63). [2]

Features of a democratic leadership style include any two of the following:

- Leaders encourage employee participation in decision-making and problem-solving.
- Decisions are made collaboratively, with input from team members.
- Employees are empowered through delegation and job enrichment.
- Feedback and ideas from staff are actively considered to improve work processes.
- Leaders focus on motivating and developing employees rather than just directing them.
- Communication is two-way, fostering open dialogue between management and staff.

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

Note: no description or application is required.

3. Distinguish between quantitative and qualitative research *ABC* conducted for "Eco-Crete" (lines 40-45). ***[4 marks]***

Quantitative research involves collecting numerical data to measure market size, industry trends, or customer demand. *ABC* conducted quantitative research to estimate the size of the market for "Eco-Crete" as part of its shift towards market orientation (lines 40-45).

Qualitative research involves collecting non-numerical data to understand people's opinions, perceptions, or motivations. *ABC* conducted qualitative research to explore customer perceptions and concerns about the durability of concrete containing recycled plastics (lines 44-45).

Essentially, quantitative research produces measurable and numerical insights, while qualitative research provides descriptive and detailed understanding of customer attitudes and preferences. *ABC* used both to combine market size data with insights into customer concerns.

*Mark as **[2]** + **[2]***

*Award **[1]** for correctly showing understanding of quantitative research and an additional **[1]** for application to ABC showing the difference from qualitative research. Award **[1]** for correctly showing understanding of qualitative research and an additional **[1]** for application to ABC showing the difference from quantitative research. Award a maximum of **[4]**.*

*A maximum **[2]** can be awarded if the response lacks application to the case study, beyond just mentioning ABC.*

4. Explain <u>two</u> advantages of *ABC's* e-waste facility using batch production to process the various types of e-waste (lines 48-50). ***[4 marks]***

Possible advantages include an explanation of any **one** of the following:

- **Flexibility in processing –** Batch production allows *ABC* to process different types of e-waste from various electronics, such as computers, mobile phones, and games consoles, separately (lines 8-9). This ensures that each type of e-waste receives the appropriate handling and treatment, improving efficiency and safety from toxic metals like lead, cadmium, and mercury (line 50).

- **Better quality control –** Processing e-waste in batches makes it easier for *ABC* to monitor the separation of toxic metals like lead, cadmium, and mercury from circuit boards (lines 48-50). This reduces the risk of contamination and ensures higher purity of recovered metals, which can then be sold to jewellery makers for high profit margins (lines 67-68).

- **Reduces waste and errors –** If mistakes occur during the processing of one batch, only that batch is affected rather than *ABC's* entire e-waste facility's output. This limits financial losses, given the hazardous nature of these toxic metals (line 51) and maintains the overall efficiency of the company's e-waste operations.

- **Facilitates specialized processing –** Batch production supports the use of specialized plastic-shredding machinery that separates non-metallic materials from hazardous metals (lines 48-51). This allows *ABC's* operatives to safely handle toxic components before the outsourced company finally disposes of toxic (lines 51-52).

- **Supports creative experimentation –** *ABC* can test new recycling techniques or improvements on individual batches without disrupting the whole production process. This is particularly important as the company develops innovative products like *Eco-Crete* and explores more sustainable methods of processing e-waste (lines 40-44).

Accept any other relevant advantage.

*Mark as **[2]** + **[2]**.*

*Award **[1]** for each relevant advantage and an additional **[1]** for a relevant explanation of that advantage on ABC, up to a maximum of **[2]** for each advantage.*

5. Explain <u>one</u> consequence of barriers to communication between *ABC's* scientists and the board of directors (lines 56-58) <u>other than</u> delayed decision making. ***[2 marks]***

Technical jargon prevents the board of directors from fully understanding the scientists' explanations. Possible consequences **other than** causing delayed approval for new projects include an explanation of any **one** of the following:

- **Misinterpretation of information –** The board of directors may misunderstand the scientists' explanations about recycling processes, such as the recovery of precious metals from circuit boards at room temperature (lines 5-6) and the management of toxic waste (lines 50-51). This could lead to poor decisions regarding project approval or resource allocation.

- **Reduced collaboration –** Communication barriers between scientists and the board of directors limit effective interactions, restricting cross-functional problem-solving (line 63) and reducing opportunities to integrate technical expertise into strategic decisions, such as product development of *Eco-Crete* (lines 40-45).

- **Increased operational or compliance risk –** If the board of directors does not fully understand how *ABC's* operatives are to handle hazardous toxic metals such as lead, cadmium, and mercury (lines 50-51), errors and accidents may occur in processing or waste disposal. This could result in environmental contamination, legal penalties (line 33), or damage to *ABC's* CSR reputation (line 29).

- **Lower employee motivation –** *ABC's* scientists may feel their technical expertise is undervalued because the board of directors struggles to understand their explanations (lines 56-59). This contributes to declining motivation (lines 61-62), reducing employee creativity (line 64), engagement, and potentially staff retention.

Accept any other relevant explanation.

*Mark as **[1]** + **[1]**.*

*Award **[1]** for a relevant explanation and an additional **[1]** for appropriate application to ABC, up to a maximum of **[2]**.*

6. Explain <u>two</u> ways in which *ABC* is improving its corporate social responsibility (CSR) and <u>one</u> way it is not (line 29). ***[6 marks]***

Possible ways in which *ABC* is improving its corporate social responsibility include any **two** of the following:

- **Reducing environmental impacts through renewable energy –** *ABC's* COO approved the installation of new solar panels at all factory sites to provide power for its energy-intensive machinery (lines 53-55). *ABC* has also discovered gold recovery processes from e-waste at room temperature (lines 5-6). These developments reduce the company's reliance on fossil fuels and lower CO_2 emissions from carbon-intensive processes (lines 7-8), demonstrating *ABC's* commitment to CSR.

- **Creating sustainable products –** *ABC* has launched *Eco-Crete*, which incorporates recycled plastics into concrete (lines 40-45). This provides environmentally friendly building materials for construction firms, strengthening *ABC's* commitment to CSR and promoting environmental sustainability construction practices (lines 27-29).

- **Safer e-waste processing –** *ABC* uses specialized plastic-shredding machinery to separate non-metallic materials from toxic metals such as lead, cadmium, and mercury (lines 49-50). The safe handling of hazardous waste prevents environmental contamination (line 33) of soil and water, protecting human health and the natural environment in Country Z.

- **Resource recovery and recycling –** The company recovers precious metals, such as gold, from electronic circuit boards (lines 5-6) and repurposes plastics as aggregates (Eco-Crete) as core components of concrete (lines 40-41). This reduces landfill waste, lowers raw material use, and supports a circular economy, strengthening *ABC's* sustainability credentials (line 35) and aligning with its new mission statement (lines 20-21).

Possible ways in which *ABC* is <u>not</u> improving its corporate social responsibility include any **one** of the following:

- **Continued handling of toxic metals –** Despite some improvements, *ABC* still processes hazardous e-waste containing lead, cadmium, and mercury (lines 48-50). If not fully managed, these toxic metals could contaminate soil and groundwater, pose environmental and health risks, and result in legal consequences (line 33).

- **Operational risks from hazardous waste –** The recycling process introduces new hazards, and *ABC* has not fully outsourced disposal to a specialized chemical treatment company (lines 51-52). This exposes *ABC's* workers, scientists, technicians, and directors to potential accidents or regulatory breaches, which could undermine CSR objectives.

- **High carbon footprint in concrete production –** *ABC's* traditional concrete manufacturing remains highly carbon-intensive (lines 37-38). The company's core product continues to contribute significantly to greenhouse gas emissions, including CO_2 discharges, limiting its overall CSR improvements.

- **Compromises due to financial constraints –** High capital expenditure on solar panels and machinery has weakened *ABC's* liquidity, given the recent negative net cash flow (lines 65-67). Limited funds may restrict further CSR initiatives, slowing the company's ability to fully implement CSR practices.

Accept any other suitable response, explained in the context of the case study.

*Mark as **[2]** + **[2]** + **[2]**.*

*For each point, award **[1]** for a suitable way in which ABC is or is not improving its CSR, and a further **[1]** for the explanation that is written in the context of the case study, up to the maximum of **[6]**.*

*If there is no application shown, award a maximum of **[3]**.*

SECTION B

7. Using the Ansoff matrix, evaluate whether *ABC* should pursue product development (Option 1: Eco-Tiles) or market development (Option 2: exporting technology) to secure its long-term financial success. ***[10 marks]***

Financial success is the ability of a business to generate sustainable profits, positive cash flow, and growth in shareholder value over time. For *ABC*, long-term financial success could involve increasing revenue from both concrete and recycling divisions, achieving profitability from new products like *Eco-Tiles*, maintaining strong cash flow despite high capital expenditure, and meeting the strategic target of 30% revenue from recycling by 2030.

Product development is a growth strategy that involves introducing new or improved products to an existing market. The aim is to increase sales by leveraging current customers while offering them new or differentiated products. In *ABC's* case, product development refers to launching *Eco-Tiles* using recycled plastics for the B2B interior design market.

Arguments in favour of *ABC* pursuing **product development** *(Eco-Tiles)* include:

- **Leverages existing core capabilities –** *ABC* already has experience using shredded plastic from e-waste in its *Eco-Crete* product (lines 40-45), which demonstrates technical expertise in repurposing waste materials. Developing *Eco-Tiles* allows the company to apply the same resource recovery processes to a new product. This reduces the learning process and operational risk compared with entering a completely unrelated market. It also strengthens *ABC's* internal knowledge and innovation within the recycling division.

- **Strengthening a unique selling proposition (USP) –** *Eco-Tiles* would be a high profit margin revenue stream for *ABC*, with a differentiated product in the B2B interior design market (lines 71-74). Unlike standard concrete, these tiles use recycled materials, giving *ABC* a clear USP based on sustainability. This product differentiation strategy could attract environmentally conscious customers and create a competitive advantage for *ABC*. By offering products with a USP, *ABC* can build brand recognition in a premium segment.

- **Supports CSR objectives –** Developing *Eco-Tiles* aligns directly with *ABC's* mission to "build a sustainable future by converting global waste into the foundations of tomorrow" (line 20-21). The product would also reinforce *ABC's* commitment to corporate social responsibility (line 29) and align with its circular business practices (lines 30-31). Using recycled plastics reduces landfill waste, decreases reliance on raw materials, and lowers environmental impacts (lines 28-29). This alignment with government circular economy policies could enhance ABC's reputation and stakeholder support (lines 23-34).

- **High profitability potential –** The interior design market is more premium than standard concrete (lines 71-72), allowing *ABC* to charge higher prices and increase profitability. By repurposing waste into decorative tiles, *ABC* can create a new revenue stream without significantly increasing raw material costs. High profit margin products can also help offset the negative short-term cash flow caused by the e-waste factory and solar panel investment (lines 65-67). This revenue could support further growth initiatives while maintaining *ABC's* sustainability goals.

- **Reduces ecological impacts –** Using recycled plastics in *Eco-Tiles* decreases dependence on natural aggregates like limestone and clay (lines 71-74). This lowers costs, reduces exposure to resource scarcity, and mitigates potential regulatory pressures linked to raw material extraction (line 36). Producing *Eco-Tiles* reinforces *ABC's* position as an eco-friendly supplier in the B2B market (lines 34-36), differentiating it from competitors reliant on traditional, carbon-intensive concrete (lines 24 and 78). It also minimizes landfill contributions (line 8), enhancing *ABC's* ecological sustainability (line 28).

Counterarguments, or limitations of *ABC* pursuing this product development strategy, include:

- **Limited brand awareness –** *ABC* has no established reputation in the interior design sector (a new market for the company), unlike its traditional concrete business (lines 74-75). Entering this market would require costly marketing campaigns to inform customers about *Eco-Tiles*. Without brand recognition, initial sales may be slow, affecting *ABC's* short-term revenue and the return on its investment.

- **Concerns about product durability –** Some potential buyers are worried about the long-term reliability of concrete containing recycled plastic (lines 45-46). Overcoming these perceptions requires an effective promotional campaign and possibly additional product testing and soft launch of *Eco-Tiles*. If customer concerns persist, it could limit adoption and reduce the product's market potential.

- **High costs –** Repurposing shredded plastic from circuit boards as aggregates can be costly (line 73). Launching *Eco-Tiles* may involve significant development and operational costs, such as the expenditure on specialized equipment, production modifications, and marketing. These upfront costs could strain *ABC's* cash flow, which is already negative due to the e-waste factory and solar panel installation (lines 65-67). The financial risk could be higher than operating in existing products or markets (Option 2).

Market development is a growth strategy that involves selling existing products into new markets or regions. The goal is to expand the customer base and generate additional revenue without developing new products. For *ABC*, market development refers to exporting its room-temperature metal recovery technology to Country Y.

Reasons *ABC* should pursue **market development** (exporting its room-temperature metal recovery technology) include:

- **Expansion in new geographic markets –** Exporting the room-temperature metal recovery technology to Country Y allows *ABC* to access new customers beyond Country Z (lines 76-77). This aligns with the Ansoff matrix's market development strategy of selling existing capabilities in new markets. By entering a neighbouring country, *ABC* could increase sales and broaden its customer based, supporting the company's long-term financial growth. Geographic growth also reduces dependence on domestic construction and recycling markets in Country Z.

- **Leverages competitive advantage –** *ABC's* technology is more environmentally friendly than traditional high-temperature metal recovery processes (lines 77-78). Country Y may have carbon-intensive competitors, giving *ABC* competitive and sustainability advantages. This growth strategy could also attract clients willing to pay a premium for sustainable technology, boosting *ABC's* sales revenue. Its long-term financial success is supported as *ABC* strengthens its reputation as a leader in eco-innovation.

- **Economies of scale –** By exporting an existing technology rather than developing a new product for Country Y, *ABC* can spread fixed costs such as research and development (lines 4-8) over a larger market. Selling the same solution in multiple countries increases total revenue without duplicating research costs. Economies of scale can improve profit margins, by reducing average costs, and make the business more financially successful. It also supports *ABC's* strategic objective to grow the recycling division's revenue to 30% by 2030 (lines 20-22).

- **Potential for partnerships and licensing revenue –** Entering Country Y opens opportunities to collaborate with local firms or government bodies for technology licensing (lines 77-78). This could generate additional revenue with lower operational involvement compared to running a full factory abroad. Collaborations reduce the financial burden of market entry while allowing *ABC* to benefit from local knowledge in Country Y, strengthening its long-term financial success.

- **Supports long-term growth –** Market development aligns with *ABC's* new mission to build a sustainable future and expand its resource recovery model internationally (lines 20-21). By exporting this technology, *ABC* can influence environmental practices abroad while generating profits from the recycling division as part of its strategic objective (line 22). Essentially, pursuing Option 2 as a growth strategy could help *ABC* achieve its 2030 target of 30% revenue from recycling, contributing to financial stability and long-term strategic success (lines 19-22).

Counterarguments, or limitations of ABC pursuing this market development strategy, include:

- **Regulatory differences –** Country Y has different rules regarding the disposal of toxic metals (lines 79-80). *ABC* would need to navigate these regulations carefully, which could slow market entry and increase legal costs. Failure to comply with the safe and responsible disposal of lead, cadmium, and mercury could result in fines or reputational damage, threatening *ABC's* long-term financial success.

- **Communication and cultural barriers –** *ABC's* misaligned communication in its e-waste facility (lines 56-59) suggests potential challenges in managing foreign operations (line 80). Misunderstandings with local partners or customers could delay decision making or reduce efficiency. These barriers could increase operational costs and decrease *ABC's* profitability in the new market.

- **Potential diseconomies of scale –** Expanding into a foreign market may require additional infrastructure, staffing, or logistics. If costs rise disproportionately, *ABC* could experience diseconomies of scale (line 81), reducing its profit margins. This could also be caused by potential communication barriers in Country Y (line 80). This could further strain cash flow, especially since the company's short-term finances are already under pressure from the e-waste factory and solar panel investment (lines 66-67).

Accept any other relevant argument for/against Option 1 or Option 2, discuss in the context of the case study.

Conclusion

Candidates can provide any conclusion, as long as their arguments are clear and substantiated. For example, using the Ansoff matrix, *ABC's* options are either **product development** *(Eco-Tiles)* or **market development** (exporting its metal recovery technology). While market development offers growth in a new country, it carries high regulatory, communication, and operational risks that could strain *ABC's* finances.

In contrast, product development builds on *ABC's* existing expertise with recycled plastics, leverages its sustainability advantage, and targets a high profit margin, differentiated market segment with a clear USP. The investment in *Eco-Tiles* aligns with *ABC's* mission to convert waste into building materials and supports the strategic goal of generating 30% of revenue from recycling by 2030.

Overall, considering the lower operational risks, alignment with its core capabilities, and additional revenue stream, *ABC* should pursue product development (Option 1: Eco-Tiles) to secure its long-term financial success.

Limitations

Limitations of the stimulus, which would otherwise improve the objectivity of the conclusion/discussion include:

- **Limited financial data –** The case study mentions negative cash flow and high capital expenditure but provides no detailed figures for costs, revenues, or profit margins for the two growth options. This makes it difficult to accurately compare the financial viability of product development versus market development.

- **Lack of market research–** While the case mentions limited brand awareness in the interior design market, there is no quantitative data on potential market size or demand for *Eco-Tiles*. This reduces certainty in predicting long-term revenue from the proposed product development strategy.

- **Insufficient information on Country Y –** The case notes potential regulatory differences and communication barriers but does not specify the nature of these barriers or the cost of regulatory compliance. This limits the ability to objectively assess the risks of the proposed market development strategy.

- **Lack of competitor analysis –** The stimulus briefly mentions *ABC's* sustainability advantage but provides no information about competitor capabilities, pricing, or adoption of similar technologies. Without this information, it is hard to evaluate the realistic competitive advantage for either growth option.

*Accept any substantiated conclusion based on the line of argument presented in the answer. To reach **[5-6]**, the response must include appropriate use of the Ansoff matrix.*

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided.*

*Award **[7 – 8]** for a response that mostly addresses the demands of the question. The response contains 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 the response has some balance.*

*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*

8. Discuss whether *ABC* should use loan capital or a new share issue to finance its various growth plans (lines 65-69). ***[10 marks]***

Loan capital is finance borrowed by a business from commercial banks or other lenders that must be repaid over a fixed period with interest. It allows *ABC* to raise funds without diluting ownership or control. Loan capital could provide the cash needed for *ABC's* e-waste factory, solar panels, or new product development (Option 2).

Reasons *ABC* should use loan capital to finance its growth include:

- **Supports urgent funding needs –** *ABC's* short-term cash flow is under strain due to investment in the e-waste factory and solar panels (para 65-67). Loan capital can provide quick access to large sums of finance without the delays due to lengthy and bureaucratic procedures in issuing new shares and attracting investors. This ensures *ABC* can continue projects on schedule and avoid delays that could impact long-term sales revenue growth from recycling e-waste and *Eco-Tiles*.

- **Maintains ownership and control –** Using loan capital allows *ABC* to raise the funds it growth without issuing new shares, so the current board of directors and shareholders retain control over strategic decisions (lines 20-22 and Options 1 and 2). This is important as *ABC* is managing a major transition into e-waste processing and possibly launching new products like *Eco-Tiles* (Option 1). Retaining control ensures the board of directors can continue shaping the company's sustainability strategy and resource recovery initiatives without external shareholder influence.

- **Predictable repayment and cost structure –** Loans typically come with fixed interest payments and a set repayment schedule, providing *ABC* with a clear understanding of financial obligations. This allows the company to plan cash flow and monitor the impact on profitability while funding capital-intensive projects such as solar panels and the e-waste factory without liquidity issues (lines 65-67). Predictability reduces uncertainty compared with equity finance, where dividend expectations may vary depending on the demands of directors and shareholders.

- **Leverages tax advantages –** Interest payments on loan capital are treated as a business expense and are therefore tax-deductible. This reduces *ABC's* taxable profit and lowers its corporation tax liability, decreasing the overall cost of financing its growth. As a result, net cash flow can improve, which is particularly important given *ABC's* current short-term liquidity pressures caused by high capital expenditure (lines 65-67). These tax benefits can make loan capital a more financially efficient way to fund growth.

- **Avoids diluting profits –** By using loan capital instead of issuing new shares, *ABC* avoids diluting existing shareholders' earnings. This means future profits, including high profit margin gold sales (line 67) and revenue from *Eco-Tiles* (Option 1), are shared among current shareholders only. Maintaining profit earnings during times of high capital expenditure to fund *ABC's* growth (lines 65-67) can help preserve investor confidence. It can also ensure *ABC* retains the full financial benefits of growth in its recycling division.

Possible disadvantages or limitations of using loan capital include:

- **Increases financial risk –** Taking on a large loan increases *ABC's* financial obligations because interest and principal repayments must be made regardless of business performance. Given the short-term negative cash flow from the e-waste factory and solar panel investment (lines 65-67), this could further strain *ABC's* liquidity. Failure to meet repayments could damage *ABC's* credit rating and increase the cost of future borrowing.

- **Reduces cash flow flexibility –** Regular loan repayments to fund *ABC's* growth plans reduce the amount of cash available for day-to-day operations, such as outsourcing of toxic metal disposal which increases variable costs per tonne processed (lines 51-53) or unforeseen expenses. This could limit *ABC's* ability to respond to operational challenges, such as delays in *Eco-Tiles* production or fluctuations in gold sales revenue as this depends on recovery volumes and market prices. The reduced flexibility may slow down the company's growth or innovation initiatives.

- **Potential for over-indebtedness –** If *ABC* takes on multiple loans to fund several projects simultaneously, the company may become highly geared or borrowing beyond its ability to repay. High levels of debt increase vulnerability to market downturns or rising interest rates in Country Z. Over-indebtedness could threaten *ABC's* long-term financial stability and limit its ability to secure further finance in the future.

A **new share issue** involves selling additional shares of the company to existing or new investors to raise equity finance. This increases *ABC's* equity without creating debt, but it dilutes ownership and may reduce control for existing shareholders. Issuing new shares could fund growth plans (Option 1 or Option 2) as significant funds are likely to be needed.

Reasons *ABC* should use a new share issue include:

- **Reduces financial risk and debt burden –** Raising finance through a share issue does not require interest payments or scheduled repayments. This would reduce the strain on *ABC's* short-term cash flow, which is already negative due to the e-waste factory and solar panel investments (lines 65-67). By avoiding additional debt, *ABC* lowers the risk of over-indebtedness (or overborrowing) while still funding expansion for its growth.

- **Provides substantial funding for growth –** A new share issue provides large amounts of finance for *ABC's* multiple projects. It could raise substantial funds from investors to fund several growth initiatives simultaneously, such as the *Eco-Tiles* product launch (Option 1), solar panel installation at all factory sites (lines 53-55), and e-waste processing expansion (Option 2) without delays. Unlike loan capital, there is no repayment obligation, allowing *ABC* to deploy the funds where needed.

- **Builds investor confidence –** Issuing new shares can bring in investors who are interested in *ABC's* sustainability and circular economy initiatives (lines 34-35 and 43-45). New and existing shareholders may support *ABC's* new mission to generate 30% of revenue from recycling by 2030, providing both financial stability and stakeholder engagement. This could enhance *ABC's* reputation and sustainability credentials in B2B concrete market (lines 35-36).

- **Growth without short-term cash pressures –** Unlike loan capital, equity finance does not require fixed interest payments, easing pressure on *ABC's* strained cash flow (lines 65-67). This is particularly important given the capital-intensive nature of the e-waste factory, cost of installing solar panels in at all factory sites (lines 53-55), and costly marketing for *Eco-Tiles* (line 75). Hence, share capital enables *ABC* to focus on operational and strategic growth without worrying about short-term financial obligations.

Possible disadvantages or limitations of using a new share issue include:

- **Uncertainty over investor demand –** The success of a new share issue depends on market conditions and investor appetite for *ABC's* shares. If demand is lower than expected, the company may raise insufficient funds, delay certain projects, or rely on loan capital for the shortfall. This could potentially undermine financial planning for *ABC's* growth initiatives.

- **Dilution of ownership and control –** Issuing new shares reduces the proportion of ownership held by existing shareholders, which likely includes members of the board of directors. This could limit the ability of the current directors to make strategic decisions independently, particularly regarding the marketing of new growth projects like *Eco-Tiles* (Option 1) or extending growth of the recycling division (Option 2). The loss of control may also affect *ABC's* ability to implement its mission and sustainability-focused strategies.

- **Potential pressure from shareholders –** New shareholders may expect dividends or strategic influence, adding pressure on *ABC* to prioritize short-term financial returns over long-term sustainability goals such as strengthening its sustainability credentials (line 35). This could also conflict with the company's new mission (lines 19-22) to invest heavily in the recycling division or launch innovative products like *Eco-Tiles* (Option 1). Such pressure may limit *ABC's* flexibility in pursuing its numerous growth projects.

Accept any other relevant argument for/against loan capital or a new share issue, written in the context of the case study.

Conclusion

Candidates can provide any conclusion, so long as the arguments are clear and substantiated. For example, *ABC* has two main options to finance its growth plans: loan capital or a new share issue. Loan capital allows the company to retain ownership and control, offers predictable repayment terms, and may provide tax advantages. However, it increases financial risk, reduces cash flow flexibility, and could lead to over-indebtedness given the short-term negative cash flow from recent capital expenditure on the e-waste factory and solar panels.

A new share issue avoids fixed repayments and reduces financial strain, providing large amounts of capital for multiple growth projects, while attracting long-term investors who may support *ABC's* sustainability strategy. The drawbacks include dilution of ownership, potential pressure from new shareholders for quick financial gains, and uncertainty over market demand for the shares.

Considering *ABC's* foreseeable high capital expenditure, cash flow constraints, and strategic goals – particularly generating 30% of revenue from the recycling division by 2030 – a new share issue may be the more pragmatic approach. It reduces short-term financial risks, allows simultaneous funding of multiple growth initiatives, and supports long-term strategic and financial success. However, *ABC* must manage shareholder expectations carefully to ensure alignment with its sustainability mission.

Accept any substantiated conclusion/discussion based on the line of argument presented in the extended response answer.

Limitations

Limitations of the stimulus material that may affect the feasibility and objectivity of the conclusion(s) include:

- **Lack of quantitative financial data –** The case mentions negative cash flow and capital expenditure but does not provide figures for costs, revenues, or interest rates. The latter in particular is critical when making decisions about loan capital. Without this, it is harder to objectively evaluate affordability or repayment risks for *ABC*.

- **Lacks details on shareholders and share price –** The case study does not provide details about *ABC's* current share equity, the number of shares in the new issue, or share price. Without this information, it is difficult to assess the extent to which a new share issue would dilute existing ownership or reduce the board of director's control. This limits the objectivity of evaluating equity finance as a realistic funding option for *ABC's* growth.

- **No information on investor demand –** The stimulus does not indicate the likelihood of success for a new share issue or investor interest in *ABC's* growth initiatives. This reduces certainty when assessing the practicality of equity finance as an option and makes precise comparison of the two financing options difficult.

Accept any other relevant limitation, written in the context of the case study.

*Award **[1 – 2]** for a response that shows little understanding of the demands of the question. There is minimal use of Business Management tools and theories, which are irrelevant or used inaccurately. There is little, if any, reference to the stimulus material.*

*Award **[3 – 4]** for a response that shows some understanding of the demands of the question. There is some use of Business Management tools and theories, but these are mostly lacking in accuracy and relevance. There is superficial use of information from the stimulus material, often not going beyond the name of the organization. Any arguments made are largely not substantiated.*

*Award **[5 – 6]** for a response that shows an understanding of the demands of the question, but these demands are only partially addressed. There is some relevant and accurate use of Business Management tools and theories. There is some relevant use of information from the stimulus material that goes beyond just the name of the organization but does not effectively support the argument. Arguments are substantiated but are mostly one-sided.*

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*Award **[9 – 10]** for a response that shows clear focus on addressing the demands of the question throughout. There is 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. There is an explanation of the limitations of the case study or stimulus material (see above).*


Abraca (ABC) Case Study
Company Profile
Publicly held company
Country Z's largest concrete producer
B2B business model
Core Business: Concrete
Raw Materials
Limestone
Clay
Aggregates
Cement
Production Issues
Carbon-intensive processes
High energy consumption
Environmental impact
New Venture: E-waste Recycling
Discovery
Room temperature metal recovery
Precious metals from circuit boards
Lower carbon footprint
Operations
Processes 100 tonnes weekly
Plastic-shredding machinery
Recovers gold for jewellery makers
Environmental Impact
Reduces landfill waste
Prevents toxic metal contamination
Circular business model
Future Strategic Considerations
Increasing production efficiencies
Reducing environmental impact
Market-orientated transition
Growth options
Renewable energy via solar panels
Exam Preparation (Paper 1)
Assessment Objectives
AO1: Knowledge
AO2: Application
AO3: Synthesis/Evaluation
AO4: Subject skills
Writing Strategies
ATES for 10-mark questions
Avoid generic answers
Balanced responses