

Platform Ecosystems and Sector Interdependence

Digital platforms, quaternary activity, outsourcing and strategic choice

HL1

Worksheet

Suggested time	70 minutes	Total marks	60
Assessment use	Trimester school assessment / teacher-created practice	Focus	platform business models, quaternary activity, outsourcing, stakeholder trade-offs
Student	Name: _____ Class: _____ Date: _____	Calculator	Allowed for calculations where needed

- Original teacher-created IB-style practice worksheet. Not an official IB assessment document.
- Answer in context where possible. Show working for calculations and support evaluations with clear judgment.
- This PDF includes the full answer key and marking guidance at the end for teacher use.

Section A - Multiple choice (8 marks)

Choose one answer for each question.

1. Which activity in a grocery platform is mainly quaternary-sector work? [1]

- A. growing vegetables on partner farms
- B. using routing algorithms and demand forecasts
- C. packing meal kits in boxes
- D. driving a delivery van

2. If GreenBasket builds its own cold-storage hub rather than use an external logistics firm, this is closest to: [1]

- A. vertical integration
- B. market saturation
- C. decentralization of ownership
- D. primary-sector extraction

3. The opportunity cost of spending \$180,000 on a storage hub is the: [1]

- A. total monthly revenue of the business
- B. number of orders currently processed
- C. value of the next best use of those funds
- D. amount of fixed cost saved by outsourcing

4. A meal-kit platform is best described as offering: [1]

- A. only primary products
- B. only intangible services
- C. only manufactured goods

D. a combination of goods and services

5. Which stakeholder group is most likely to worry about closer performance monitoring of delivery work? [1]

- A. suppliers
- B. drivers
- C. government ministers
- D. landlords

6. If outsourcing lowers fixed costs but raises variable costs, the arrangement is usually more attractive when: [1]

- A. order volume is relatively low
- B. output is unlimited and free
- C. all labour has been replaced
- D. the business has no stakeholders

7. Structural change towards quaternary activity usually increases demand for: [1]

- A. unskilled extraction work only
- B. free natural resources
- C. highly skilled labour
- D. less information use

8. GreenBasket mainly adds value for customers by: [1]

- A. selling only raw produce without service
- B. removing all supply chain stages
- C. eliminating the need for labour
- D. combining convenience, information, and delivery reliability with physical products

Section B - Short answer (16 marks)

Answer in full sentences and apply the case or examples where appropriate.

9. Explain how data analytics can add value in a delivery platform. [4]

10. Distinguish between outsourcing a business function and vertical integration. [4]

11. Explain one stakeholder conflict that may arise when a platform lowers delivery times by monitoring riders more closely. [4]

12. Explain one opportunity and one risk created by rapid structural change towards quaternary activities. [4]

Section C - Data response / case study (24 marks)

Read the stimulus below and answer all parts of Question 13.

GreenBasket

GreenBasket is a fast-growing grocery and meal-kit platform serving a large metropolitan area. The business buys produce from local farms, assembles meal kits in a packing center, and delivers orders through its own couriers and contracted drivers. Its software team uses demand forecasts, routing data, and customer ratings to decide which products to stock and which areas to serve first. Management wants GreenBasket to grow without losing its ethical brand image.

Current monthly data are as follows: orders 18,000; average selling price per order \$34; food and packaging cost per order \$18; delivery labour and app support cost per order \$7; fixed monthly costs \$96,000.

GreenBasket is considering two strategies for the next 12 months. Option A: build a small cold-storage hub for \$180,000. This is expected to reduce food waste by \$1.20 per order and improve next-day delivery availability. Option B: outsource more storage and delivery to a logistics partner. This would reduce fixed costs by \$18,000 per month but increase variable cost by \$1.10 per order and weaken GreenBasket's control over service quality.

Current monthly performance and strategic options

Item	Value
Monthly orders	18,000
Average selling price per order	\$34
Food and packaging cost per order	\$18
Delivery labour and app support cost per order	\$7
Fixed monthly costs	\$96,000
Option A waste reduction	\$1.20 per order
Option B fixed cost reduction	\$18,000 per month
Option B variable cost increase	\$1.10 per order

13(a) Identify one primary, one secondary, one tertiary, and one quaternary activity in GreenBasket's business model. [4]

13(b) Calculate GreenBasket's current monthly contribution before fixed costs and its current monthly profit. **[6]**

13(c) Analyse how Option A could change GreenBasket's ability to add value for customers and other stakeholders. **[6]**

13(d) Evaluate which strategy GreenBasket should choose. **[8]**

Teacher answer key and marking guidance

- Award credit for any other valid response that is accurately applied to the stimulus or business context.
- For calculation questions, award method marks where setup and workings are correct even if there is an arithmetic slip.
- For evaluation questions, reserve the top marks for balanced analysis and a clearly supported final judgment.

Section A answers

Q	Ans	Reason
1	B	Knowledge-based analytics and forecasting belong mainly to the quaternary sector.
2	A	Owning more stages of the value chain is a form of vertical integration.
3	C	Opportunity cost refers to the value of the next best alternative forgone.
4	D	Meal kits contain physical goods, while ordering, delivery, and support are service elements.
5	B	Drivers may worry about privacy, pressure, and how data are used to judge performance.
6	A	A lower-fixed-cost structure is generally more attractive when volumes are low or uncertain.
7	C	Knowledge-based sectors rely heavily on highly skilled labour.
8	D	The platform adds value by packaging goods with convenience, planning, and service quality.

Section B marking guidance

Q9 [4]

Explain how data analytics can add value in a delivery platform.

Indicative answer:

- Analytics can improve demand forecasts, stock planning, route efficiency, and delivery timing.
- This can reduce waste, improve product availability, and increase customer satisfaction or profitability.

Marking guidance: 1-2 marks for a simple relevant explanation; 3-4 marks for a clearly developed answer that is applied to the context.

Q10 [4]

Distinguish between outsourcing a business function and vertical integration.

Indicative answer:

- Outsourcing means using an external specialist to perform a business function instead of doing it internally.
- Vertical integration means the business brings more stages of the value chain under its own ownership or control.
- Outsourcing reduces internal control, while vertical integration usually increases it.

Marking guidance: Award up to 2 marks per clear difference. Full marks require accurate terminology and an applied example or business context.

Q11 [4]

Explain one stakeholder conflict that may arise when a platform lowers delivery times by monitoring riders more closely.

Indicative answer:

- Managers may want tighter monitoring because it can improve speed and efficiency.
- Drivers may worry about privacy, stress, unfair targets, or reduced autonomy.
- The conflict arises because efficiency gains for the business may reduce perceived fairness for workers.

Marking guidance: 1-2 marks for a simple relevant explanation; 3-4 marks for a clearly developed answer that is applied to the context.

Q12 [4]

Explain one opportunity and one risk created by rapid structural change towards quaternary activities.

Indicative answer:

- Opportunity: higher-value jobs, innovation, and stronger knowledge-based competitiveness.
- Risk: skill shortages, inequality, or exclusion of workers who are not able to retrain quickly.

Marking guidance: Award up to 2 marks for a developed advantage and up to 2 marks for a developed disadvantage.

Section C marking guidance

Q13(a) [4]

Identify one primary, one secondary, one tertiary, and one quaternary activity in GreenBasket's business model.

Indicative answer:

- Primary: farms growing produce.
- Secondary: assembling or packing the meal kits.
- Tertiary: delivery service or customer support.
- Quaternary: demand forecasting, routing analytics, or data-based stock decisions.

Marking guidance: 1 mark for each correctly identified activity, with clear sector classification.

Q13(b) [6]

Calculate GreenBasket's current monthly contribution before fixed costs and its current monthly profit.

Indicative answer:

- Contribution per order = $\$34 - \$18 - \$7 = \9 .
- Monthly contribution = $18,000 \times \$9 = \$162,000$.
- Monthly profit = $\$162,000 - \$96,000 = \$66,000$.

Marking guidance: Award method marks for correct setup and intermediate workings. Full marks require both correct calculations and accurate interpretation of the results.

Q13(c) [6]

Analyse how Option A could change GreenBasket's ability to add value for customers and other stakeholders.

Indicative answer:

- Reducing waste by \$1.20 per order could improve margins and sustainability performance.
- Better cold storage may increase availability, freshness, and next-day delivery reliability for customers.
- Local suppliers may benefit from more reliable demand planning.
- The ethical brand may be strengthened through lower food waste.
- However, the investment increases financial risk and requires effective execution.

Marking guidance: 1-2 marks for basic analysis, 3-4 for some development with application, and 5-6 for well-developed analysis using relevant data and business context.

Q13(d) [8]

Evaluate which strategy GreenBasket should choose.

Indicative answer:

- At current volume, Option A could save about $18,000 \times \$1.20 = \$21,600$ per month before considering wider quality benefits.
- At current volume, Option B would save \$18,000 of fixed costs but add $18,000 \times \$1.10 = \$19,800$ of variable cost, giving a net monthly loss of control with little direct financial gain.

- Option B also risks weaker service quality and weaker brand control.
- Option A involves higher upfront capital cost, but the savings plus freshness and reliability gains may justify it.
- A balanced answer will usually recommend Option A, unless the business needs a lighter fixed-cost model because of major demand uncertainty.

Marking guidance: 1-2 marks for limited comments, 3-4 for some analysis, 5-6 for balanced analysis with some judgment, and 7-8 for a well-supported recommendation or evaluation.

Section D marking guidance

Q14 [12]

Evaluate the view that quaternary-sector businesses create more value than businesses in the primary and secondary sectors.

Indicative content:

- Quaternary businesses often create high value through information, expertise, innovation, and decision support.
- However, they usually depend on primary and secondary sectors for physical inputs, infrastructure, and the products that knowledge is applied to.
- Value creation should be seen across the whole chain: raw materials, manufacturing, logistics, service, and information all contribute.
- In some industries quaternary activities generate the highest margins, but that does not mean the earlier sectors are less important.
- A strong answer will compare economic value, customer value, and strategic dependence across sectors.
- A balanced conclusion might argue that quaternary businesses can create high added value, but they do so most effectively when connected to efficient primary and secondary activities.

Marking guidance: Use the markband below. Reserve the top band for sustained, well-supported evaluation and a convincing final judgment.

Marks	Descriptor
0	No relevant business knowledge or application.
1-3	Limited knowledge; response is mostly descriptive and weakly applied.
4-6	Some understanding and analysis; application is partial and judgment is weak.
7-9	Good analysis and application with some balance; judgment is supported.
10-12	Strong, sustained evaluation; evidence is used well and the final judgment is clear and convincing.