6.6 Relevant-cost decisions

Name: _____ Class: _____ Date: _____ **Total: 15 marks**

KEY WORDS relevant cost • sunk cost

Objective

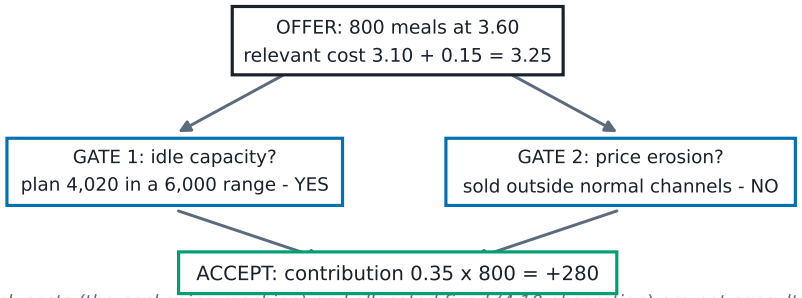
Isolate relevant costs and revenues; decide special orders and outsourcing; rank products under a constraint; refuse sunk and allocated numbers a vote.

1 Key knowledge and worked examples

■ Future and differential – or silent

Relevant = future + differential. Sunk costs never argue; allocated fixed rarely does; opportunity cost always counts. Two gates before any verdict: capacity, price erosion.

Relevant cost decides; the gates decide first



sunk costs (the packaging machine) and allocated fixed (4.10 absorption) are not consulted

Two gates before the verdict

■ Worked example. The 3.60 offer

Relevant cost 3.25 (3.10 + 0.15) vs offer 3.60 → +£280 on 800 idle- capacity meals ✓. Outsourcing: avoidable 3.40 < bid 4.40 → keep ✓. Mix: Beta earns £9.00 per scarce kg vs Alpha's £8.67 ✓.

2 Practice

A juice bar: price £4.00, variable £1.90, fixed £3,000 a month, sales 5,200 cups (capacity 7,000). A hotel offers 900 cups at £2.35 with £0.10 extra packaging per cup.

2.1 Compute the order's relevant cost per cup and its total contribution, and state the two gates. [4]

2.2 The regular supplier of cups offers to take over production at £2.60 a cup. Avoidable internal cost is £1.90 plus £200 a month of rent actually freed. Decide, with numbers. [4]

2.3 Mango pulp is short: 300 kg left. Smoothie A uses 0.10 kg with CM £1.60; smoothie B uses 0.15 kg with CM £2.10. Which mix, and what is the maximum total contribution? [4]

2.4 The £12,000 blender bought two years ago is half-depreciated. For each of – its book value; its £1,500 trade-in today; the £400 future maintenance either way – say whether it is relevant to replacing it, and why. [3]

Solutions

2.1

- Relevant cost = $1.90 + 0.10 = £2.00$ a cup.
- Contribution = $(2.35 - 2.00) \times 900 = £315 \rightarrow$ accept.
- Gate 1: idle capacity – 900 fits inside the 1,800-cup slack ✓.
- Gate 2: the £2.35 price must not leak to regular £4.00 customers.

2.2

- Avoidable internal = $1.90 + 200/5{,}200 = 1.90 + 0.038 = £1.94$ a cup.
- Bid $£2.60 > £1.94 \rightarrow$ keep making.
- The remaining ~£0.62 of "cost" per cup is fixed or allocated – no vote.

2.3

- A: $1.60/0.10 = £16.00$ per kg; B: $2.10/0.15 = £14.00$ per kg.
- Rank by CM per scarce kg → fill with A first.
- A uses $5{,}200 \times 0.10 = 520$ kg... pulp is capped at 300: cap A at $300/0.10 = 3{,}000$ smoothies worth £4,800.
- Maximum contribution = $3{,}000 \times 1.60 = £4{,}800$ (mix A-only under the 300 kg cap).

2.4

- Book value £6,000: sunk – constant across alternatives.
- Trade-in £1,500: relevant – a future cash flow that differs.
- Maintenance £400: not relevant – occurs either way.

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