1. Accounting for decision making

1.4 Relevant Information for Decision Making
Introduction

- This chapter explores the decision-making process.
- It focuses on specific decisions such as accepting or rejecting a one-time-only special order, insourcing or outsourcing products or services, and replacing or keeping equipment.
Learning Objectives

1. Describe a five-step sequence in the decision process
2. Differentiate relevant costs and revenues from irrelevant costs and revenues
3. Distinguish between quantitative factors and qualitative factors in decisions
Learning Objectives (Continued)

4. Describe a make-or-buy-decision process
5. Describe the opportunity cost concept; explain why it is used in decision making
Learning Objective 1

Describe a five-step sequence in the decision process
A decision model is a formal method for making a choice, often involving quantitative and qualitative analysis.
Five-Step Decision Process

1. Gathering information
2. Making predictions
3. Choosing an alternative
4. Implementing the decision
5. Evaluating performance
Learning Objective 2

Differentiate relevant costs and revenues from irrelevant costs and revenues
The Meaning of Relevance

- Relevant costs and relevant revenues are expected future costs and revenues that differ among alternative courses of action.
The Meaning of Relevance (Continued)

- Historical costs are irrelevant to a decision but are used as a basis for predicting future costs.
- Sunk costs are past costs which are unavoidable.
Differential profit (net relevant profit) is the difference in total operating profit when choosing between two alternatives.

Differential costs (net relevant costs) are the difference in total costs between two alternatives.
Learning Objective 3

Distinguish between quantitative factors and qualitative factors in decisions
Quantitative and Qualitative Relevant Information

- **Quantitative factors are outcomes that are measured in numerical terms:**
  - Financial
  - Non-financial.

- **Qualitative factors are outcomes that cannot be measured in numerical terms.**
One-Time-Only Special Order

- Gabriela & Co manufactures bath towels in Jersey.
- The plant has a production capacity of 44,000 towels each month.
- Current monthly production is 30,000 towels.
- The assumption is made that costs can be classified as either variable with respect to units of output or fixed.
## One-Time-Only Special Order (Continued)

<table>
<thead>
<tr>
<th></th>
<th>Variable Costs</th>
<th>Fixed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Unit</td>
<td>Per Unit</td>
</tr>
<tr>
<td>Direct materials</td>
<td>£6.50</td>
<td>£0.00</td>
</tr>
<tr>
<td>Direct labour</td>
<td>£0.50</td>
<td>£1.50</td>
</tr>
<tr>
<td>Manufacturing costs</td>
<td>£1.50</td>
<td>£3.50</td>
</tr>
<tr>
<td>Total</td>
<td>£8.50</td>
<td>£5.00</td>
</tr>
</tbody>
</table>

■ Total fixed direct manufacturing labour amounts to £45,000.
■ Total fixed overhead is £105,000.
■ Marketing costs per unit are £7 (£5 of which is variable).
■ What is the full cost per towel?
Variable (£8.50 + £5.00): £13.50
Fixed: 7.00
Total £20.50

A hotel in Southampton has offered to buy 5,000 towels from Gabriela & Co at £11.50 per towel for a total of £57,500.
No marketing costs will be incurred for this one-time-only special order.

Should Gabriela & Co accept this order?

Yes!

Why?
The relevant costs of making the towels are £42,500.

£8.50 × 5,000 = £42,500 incremental costs

£57,500 – £42,500 = £15,000 incremental revenues

£11.50 – £8.50 = £3.00 contribution margin per towel
Decision criteria:

Accept the order if the revenue differential is greater than the cost differential.
Learning Objective 4

Describe a make-or-buy decision process
Insourcing versus Outsourcing

*Outsourcing* is the process of purchasing goods and services from outside sellers rather than producing goods or providing services within the organisation, which is called *insourcing*. 
Make-or-Buy Decisions

- Decisions about whether to outsource or produce within the organisation are often called make-or-buy decisions.
- The most important factors in the make-or-buy decision are quality, dependability of supplies and costs.
Make-or-Buy Decisions (Continued)

- Gabriela & Co also manufactures bath accessories.
- Management is considering producing a part it needs (#2) or using a part produced by Alec Enterprises.
Gabriela & Co has the following costs for 150,000 units of Part #2:

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>28,000</td>
</tr>
<tr>
<td>Direct labour</td>
<td>18,500</td>
</tr>
<tr>
<td>Mixed overhead</td>
<td>29,000</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>15,000</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120,500</strong></td>
</tr>
</tbody>
</table>
Make-or-Buy Decisions (Continued)

- Mixed overhead consists of material handling and set-up costs.
- Gabriela & Co produces the 150,000 units in 100 batches of 1,500 units each.
- Total material handling and set-up costs equal fixed costs of £9,000 plus variable costs of £200 per batch.
What is the cost per unit for Part #2?

£120,500 ÷ 150,000 units = £0.8033/unit

Alec Enterprises offers to sell the same part for £0.55.

Should Gabriela & Co. manufacture the part or buy it from Alec Enterprises?
The answer depends on the difference in expected future costs between the alternatives. Gabriela & Co. anticipates that next year the 150,000 units of Part #2 expected to be sold will be manufactured in 150 batches of 1,000 units each.
Make-or-Buy Decisions (Continued)

- Variable costs per batch are expected to decrease to £100.
- Gabriela & Co. plans to continue to produce 150,000 next year at the same variable manufacturing costs per unit as this year.
- Fixed costs are expected to remain the same as this year.
What is the variable manufacturing cost per unit?

- Direct material: £28,000
- Direct labour: 18,500
- Variable overhead: 15,000

Total: £61,500

£61,500 ÷ 150,000 = £0.41 per unit
Make-or-Buy Decisions (Continued)

- Expected relevant cost to make Part #2:
  - Manufacturing £61,500
  - Material handling and set-ups 15,000*
  - Total relevant cost to make £76,500

- Cost to buy: (150,000 × £0.55) £82,500

- Gabriela & Co will save £6,000 by making the part.
  *150 × £100 = £15,000
Now assume that the £9,000 in fixed clerical salaries to support material handling and set-up will not be incurred if Part #2 is purchased from Alec Enterprises.

Should Gabriela & Co buy the part or make the part?
Make-or-Buy Decisions (Continued)

- Relevant cost to make:
  - Variable £76,500
  - Fixed 9,000
  - Total £85,500

- Cost to buy: £82,500

- Gabriela would save £3,000 by buying the part.
Learning Objective 5

Describe the opportunity cost concept; explain why it is used in decision making
Opportunity Costs, Outsourcing and Constraints

- Assume that if Gabriela buys the part from Alec Enterprises, it can use the facilities previously used to manufacture Part #2 to produce Part #3 for Krysta Ltd.
- The expected additional future operating profit is £18,000.
- What should Gabriela & Co do?
Gabriela & Co. has three options:

1. Make Part #2 and do not make Part #3 for Krysta.
2. Buy Part #2 and do not make Part #3 for Krysta.
3. Buy the part and use the facilities to produce Part #3 for Krysta.
Expected cost of obtaining 150,000 parts:

- **Buy Part #2** and do not make Part #3
  - £82,500
- **Buy Part #2** and make Part #3
  - £64,500*
- **Make Part #2**
  - £76,500

*£82,500 – £18,000 = £64,500
Opportunity cost is the contribution to profit that is foregone (rejected) by not using a limited resource in its next-best alternative use.
Opportunity Costs, Outsourcing and Constraints ( Continued )

- Opportunity costs are not recorded in formal accounting records since they do not generate cash outlays.
- These costs also are not ordinarily incorporated into formal reports.
End of Chapter 1.4