On completion of this unit, you should be able to:

- Identify the nature of various cost items and their relevance to decision making.
- Apply costing concepts and techniques in business decisions:
  - hire, make or buy;
  - accept or reject an order at a special price;
  - retain or replace equipment;
  - sell or process further; and
  - eliminate or retain an unprofitable segment.
- Explain the importance of qualitative factors.
A decision making involves choosing among alternative courses of actions, based on both quantitative and qualitative factors.

Quantitative factors are outcomes that can be measured in numerical terms, e.g. production cost per unit, units produced.

Qualitative factors are outcomes that are difficult to measure accurately in numerical terms, e.g. employee morale, reliability of outside supplier.
Relevant information for decision making

• **Relevant information** relates to the future and varies among alternative courses of action.

  - **Relevant revenues** are expected future revenues.

  - **Relevant costs** are expected future costs.

Relevant and irrelevant cost items (1)

• **Fixed costs** are costs that will remain unchanged irrespective of the changes in the level of activity (e.g. production volume) within a relevant range.

• Unit fixed costs increases as the level of activity decreases, and vice versa.
Examples of fixed costs are rent, wages for production supervisors and depreciation of fixed assets calculated on straight line or reducing balance method.

Fixed costs are usually irrelevant costs, unless they are avoidable fixed costs.
• **Variable costs** are costs that will change in direct proportion to the changes in the level of activity (e.g. production volume).

• Unit variable costs will remain unchanged irrespective of the change in level of activity.
• Examples of variable costs are raw materials, direct labour and distribution costs calculated on the basis of units sold.

• Variable costs are usually relevant costs, because they vary among the possible courses of action.

• **Avoidable costs** are costs that can be eliminated by choosing one alternative over another, e.g. the wages of the foreman for a product line that can be saved when that product line is discontinued.

• Avoidable costs are relevant costs.

• **Unavoidable costs** are costs that do not differ between the alternatives, e.g. the rental costs of a factory having numerous product lines that would not be reduced even though one of its product lines is discontinued.

• Unavoidable costs are irrelevant for decision making.
• **Past costs**, also known as **sunk costs**, are those costs that have either been charged as expenses in prior accounting period or will be charged as expenses in a future accounting period, e.g. the depreciation of a machine that has been bought.

• Past costs are also irrelevant for decision making because they cannot be changed, regardless of whether the decision is made.

• **Historical costs** are the amount of cash or the fair value of consideration given to acquire the assets and expenses at the time of their acquisition, e.g. the purchase costs of a motor vehicle.

• Historical costs are past costs.
• **Opportunity cost** is the cost of an action in terms of the value of the best alternative opportunity foregone.

• For example, a scarce material can be used to produce product X, Y or Z which yields profits of $40, $60 and $70 respectively. The opportunity cost of using the scarce material in producing product Z (the best action) is $60 (the best alternative forgone).

• **Incremental cost** is the additional total cost incurred for an activity, e.g. the additional cost incurred for hiring 3 technicians instead of 2 technicians in the repair and maintenance department.

• **Differential cost** is the difference in total cost between two alternatives, e.g. the difference in total cost between the make-parts and buy-parts of a product.
• **Joint costs** are the cost incurred for a single process that produces two or more products at the same time, e.g. the cost of distillation of coal which yields coke, natural gas and other products.

• Joint costs are irrelevant for sell or process further decisions.

• **Net realisable value (NRV)** is the estimated selling price in the ordinary course of business less estimated costs of completion and estimated costs necessary to make the sale, e.g. the estimated selling price of a second hand motor vehicle net of the commission paid for the agent to sell it.

• NRV is considered as the relevant cost of materials already bought with no other usage but to sell them.
Relevant and irrelevant cost items (14)

• **Committed cost** is a future cash outflow that will be incurred no matter what decision is taken now about alternative courses of action, e.g. rent expenses under an unexpired tenancy.

• **Replacement cost** is the amount of cash or the fair value of consideration given to acquire the assets and expenses now, e.g. the purchase cost for acquiring a material now.

• Replacement cost may be relevant or irrelevant depends on the circumstances.

Example 1 (1)

Chai Wan Limited is a Hong Kong based company engaging in the production and supply of a vast variety of durable products and consumer products.

200 kg of material A at a cost of $8,000 are in stock as a result of previous over-buying and they have restricted use. It can be converted for sales at a cost of $2,000. The sales proceeds after the conversion will be $12,000. Material A can now be bought at a cost of $35 per kg. A recent job would require the whole lot of 200 kg of material A.

**Required:**

Calculate and explain the relevant cost of using 200 kg of material A for the job.
Example 1 (2)

Solution:

Historical cost of $8,000 is a sunk cost and is irrelevant.

Replacement cost of $7,000 ($35 x 200) is also irrelevant here as the company has already had the required quantity. If the job would require, say 250 kg of material A, then replacement cost is relevant for the additional 50 kg of material A that need to be bought for the job.

The relevant cost of using 200 kg of material A for the job is the net realisable value of $10,000 ($12,000 - $2,000).

Short-term business decisions

There are a wide variety of short-term business decisions that can show how costing techniques can be used. They include:

- Hire, make or buy decisions
- Special order decisions
- Retain or replace equipment decisions
- Sell or process further decisions
- Eliminate or retain an unprofitable segment decisions
Hire decision concerns whether to hire an asset or not. Basically, the benefits generated from the use of the asset must exceed the cost of having the right to use the asset.

Following a policy in adopting the advanced manufacturing technology, the management of Chai Wan Limited is considering hiring an automating machine in its Dongguan factory at an annual rent of $230,000 in order to save labour costs and to increase the outputs.

Data about the company’s annual sales and costs without the machine are:
### Example 2 (2)

#### Operating statement: $

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Less: Variable costs:</td>
<td></td>
</tr>
<tr>
<td>Direct materials</td>
<td>$100,000</td>
</tr>
<tr>
<td>Direct labour</td>
<td>$500,000</td>
</tr>
<tr>
<td>Variable overheads</td>
<td>$150,000</td>
</tr>
<tr>
<td></td>
<td>$750,000</td>
</tr>
<tr>
<td>Contribution</td>
<td>$250,000</td>
</tr>
<tr>
<td>Less: Fixed costs:</td>
<td></td>
</tr>
<tr>
<td>Fixed selling overheads</td>
<td>$190,000</td>
</tr>
<tr>
<td>Net profit</td>
<td>$60,000</td>
</tr>
</tbody>
</table>

### Example 2 (3)

With the new machine, it is estimated that annual labour costs will be reduced to $350,000 and the production and sales volume will be increased by 20%. Unit selling price will remain unchanged while other variable costs will be changed in direct proportion to the change in production volume.
**Required:**

a. Advise the management, based on financial consideration alone, whether the new automating machine should be hired or not. Show your calculations.

b. Apart from financial consideration, discuss the other factors that the management needs to consider before coming to a decision.

---

**Solution:**

### a.

<table>
<thead>
<tr>
<th></th>
<th>Existing situation</th>
<th>Situation with the new machine</th>
<th>Differential benefits/ (costs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$1,000,000</td>
<td>$1,200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Less: Variable costs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct materials</td>
<td>100,000</td>
<td>120,000</td>
<td>(20,000)</td>
</tr>
<tr>
<td>Direct labour</td>
<td>500,000</td>
<td>350,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Variable overheads</td>
<td>150,000</td>
<td>180,000</td>
<td>(30,000)</td>
</tr>
<tr>
<td></td>
<td>750,000</td>
<td>650,000</td>
<td></td>
</tr>
<tr>
<td>Contribution</td>
<td>250,000</td>
<td>550,000</td>
<td></td>
</tr>
<tr>
<td>Less: Fixed costs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed selling overheads</td>
<td>190,000</td>
<td>190,000</td>
<td></td>
</tr>
<tr>
<td>Rental of the machine</td>
<td>190,000</td>
<td>230,000</td>
<td>(230,000)</td>
</tr>
<tr>
<td></td>
<td>190,000</td>
<td>420,000</td>
<td></td>
</tr>
<tr>
<td>Net profit</td>
<td>60,000</td>
<td>130,000</td>
<td>70,000</td>
</tr>
</tbody>
</table>

Based on financial consideration alone, it is advisable to hire the new machine so as to increase its profit by $70,000.
Example 2 (6)

b. Before making the final decision for the hire of the machine, Chai Wan also needs to consider the qualitative factors such as the decline in employee morale and the possible objection from the trade union. Moreover, the accuracy and reliability of the estimates should be ascertained. For example, if the company needs to lay off workers due to the hiring of machine, they may have to pay the redundancy costs.

Make or buy decisions (1)

Make or buy decision refers to the situation where a product could be made internally or bought externally. Cost will be of over-riding importance and marginal costing is proved useful in providing a comparison between the cost of buying the product and the marginal cost of production.

Fixed costs are excluded from the analysis, as they would be incurred in any case and so irrelevant for the decision. However, should the fixed costs be increased as a result of the decision, they would be included in determining profit.
The decision rule for make or buy decision is that the company shall take the option with the lowest relevant costs so as to earn the highest profit.

Apart from the financial consideration, the company should take into account a variety of qualitative factors in reaching the decision.

Qualitative factors that may influence the make or buy decisions include the following:

a. The reliability of the outside supplier with delivery time and quality of the products or services provided.

b. Redundancies and decline in employee morale may result if the components are bought from outside suppliers.
Make or buy decisions \(4\)

- The possible uses of the spare capacity upon the discontinuance of the production of the component.

- The possible future increase in price offered by outside suppliers and the possible increase or decrease in future production costs.

Example 3 \(1\)

Chai Wan Limited makes 100,000 units 20” LCD televisions per year. Currently, it produces the television panels itself. The following data relate to the unit production cost of the television panels at a full capacity of 120,000 units.

Unit production costs:
- Direct material $60
- Direct labour $40
- Variable production overhead $20
- Fixed production overhead $35
Example 3 (2)

A sub-contractor has offered to supply Chai Wan Limited all the television panels with $130 each. If Chai Wan Limited decides to discontinue making the television panels, 30% of the above fixed production overhead costs will be avoided.

**Required:**

Decide whether Chai Wan Limited should make or buy the television panels on the basis of financial consideration only.

---

Example 3 (3)

**Solution:**

**Relevant costs under the make alternative:**

- Direct materials (100,000 x $60)  $6,000,000
- Direct labour (100,000 x $40)  $4,000,000
- Variable production overhead (100,000 x $20)  $2,000,000
- Avoidable fixed production overhead (120,000 x $35 x 30%)  $1,260,000

Total relevant costs under the make alternative: $13,260,000

**Relevant costs under the buy alternative:**

- Costs of purchases (100,000 x $130)  $13,000,000

On the basis of financial considerations alone, Chai Wan Limited should buy the television panels from the sub-contractor as there is a saving of $260,000 ($13,260,000 - $13,000,000).
This type of decision refers to the situation where normal production would remain unaffected and spare capacity exists so as to facilitate a one-off special order, usually at a lower than normal price, without causing disruption to the regular production.

In a special order decision when there is spare production capacity, relevant revenues and relevant costs are compared in order to determine whether it is worthwhile or not.

The decision rule is that the special order should be:

(a) accepted, if it generates additional contribution; and

(b) rejected, if it does not generate positive contribution.
When there is no spare production capacity, the opportunity cost of lost contribution from existing job should also be included in the comparison.

There are a variety of technical and marketing considerations that may be taken into account in reaching a decision whether to accept a special order or decline it. Such factors include the reaction of regular customers to the same product but from a different market or brand name, and the production changes as a result of the decision.

Example 4

Chai Wan Limited has been offered a special order to supply 50,000 units at a selling price of $2 per unit of one of its popular products, “Zeta”, to be exclusively sold in a new market outside Hong Kong. Existing output of “Zeta” is 200,000 units per month which represents 80 percent of its maximum capacity.

Total costs for last month were $300,000 of which $120,000 were fixed costs. Fixed costs would be increased by 20% if the special order is accepted. The selling price for “Zeta” is $2.5 per unit.

Required:
Should Chai Wan Limited accept this special order?
Solution:

Spare capacity: 200,000 units ÷ 80% x 20% = 50,000 units

Chai Wan Limited has spare capacity to make the required 50,000 units for the special order.

Unit variable cost of “Zeta”:
= ($300,000 - $120,000) ÷ 200,000
= $0.9

Solution:

Operating statement for the one-off contract:

Sales ($2 x 50,000) 100,000
Less: Variable costs ($0.9 x 50,000) 45,000
Incremental fixed costs ($120,000 x 20%) 24,000 69,000
Profit 31,000

Since there is additional profit of $31,000 from the special order, Chai Wan Limited should accept the offer.
Chai Wan Limited has been asked to quote a price for a special order. This order requires 4,000 kg of material X, which is used regularly by the company in other production. The company has 10,000 kg of material X in stock which had been purchased last month for total costs of $200,000. Since then the price per kg has been increased by 10%. 800 labour hours have to be diverted from existing production of product “Vera” and $30,000 variable overheads to be incurred.

Details of product “Vera” are as follows:

<table>
<thead>
<tr>
<th></th>
<th>$ per unit</th>
<th>$ per unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Less: Direct material</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Direct labour</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Variable overheads</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
</tr>
</tbody>
</table>

Required:

What is the minimum selling price Chai Wan Limited should quote for the special order?
**Example 5 (3)**

**Solution:**

Relevant cost for the special order:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct material X ($200,000 $ 10,000 x 110% x 4,000 kg)</td>
<td>88,000</td>
</tr>
<tr>
<td>Direct labour ($50 x 800 hours)</td>
<td>40,000</td>
</tr>
<tr>
<td>Variable overheads</td>
<td>30,000</td>
</tr>
<tr>
<td>Contribution loss from product “Vera” ($300 $ 2 hours x 800 hours)</td>
<td>120,000</td>
</tr>
</tbody>
</table>

The minimum selling price for the special order is $278,000.

---

**Retain or replace equipment decisions (1)**

When equipment has almost reached the end of its estimated useful life or there is a newer or more efficient model, the company will consider replacing the existing equipment.

For this type of decision, the cost, accumulated depreciation and book value of existing equipment are **past costs** and are thus irrelevant.
The **relevant cost** is the cost of the new equipment because it is an expected future cost that will only occur if the equipment is purchased. In addition, the possible savings in operating costs are relevant in making retain or replace equipment decisions.

The general decision rule is to select the alternative that will generate the highest profit.

---

**Example 6**

Chai Wan Limited is considering replacing a printing machine with a new model, which is more efficient than the existing one for its magazine publishing business. Data for the existing (old) machine and the replacement (new) machine are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Old machine</th>
<th>New machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased cost</td>
<td>$2,000,000</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>Estimated useful life</td>
<td>5 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Current age</td>
<td>2 years</td>
<td>0 years</td>
</tr>
<tr>
<td>Remaining useful life</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>$800,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Carrying amount</td>
<td>$1,200,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Current disposal value</td>
<td>$60,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Terminal disposal value (3 years later)</td>
<td>$10,000</td>
<td>$0</td>
</tr>
<tr>
<td>Annual operating costs</td>
<td>$1,000,000</td>
<td>$550,000</td>
</tr>
</tbody>
</table>

**Required:**

Advise Chai Wan Limited whether to retain or replace the old machine.
Example 6 (2)

Solution:

<table>
<thead>
<tr>
<th></th>
<th>Retain</th>
<th>Replace</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash operating costs (W1)</td>
<td>$3,000,000</td>
<td>$1,650,000</td>
<td>$1,350,000</td>
</tr>
<tr>
<td>Current disposal value of old machine</td>
<td>-</td>
<td>$(60,000)</td>
<td>$60,000</td>
</tr>
<tr>
<td>Terminal disposal value of old machine</td>
<td>$(10,000)</td>
<td>-</td>
<td>$(10,000)</td>
</tr>
<tr>
<td>New machine, written off periodically as depreciation (W2)</td>
<td>-</td>
<td>$1,200,000</td>
<td>$(1,200,000)</td>
</tr>
<tr>
<td>Total relevant costs</td>
<td>$2,990,000</td>
<td>$2,790,000</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

Chai Wan Limited should replace the old machine with the new machine since there is a lower relevant cost and thus will bring in an additional benefit of $200,000 in total in the next three years.

Example 6 (3)

Working:

(W1) Cash operating costs for retaining the old machine: $1,000,000 x 3 = $3,000,000

Cash operating costs for replacing the old machine with the new machine: $550,000 x 3 = $1,650,000

(W2) The cost of old machine is sunk cost and is thus excluded.
In continuous production industries such as oil refining, soap manufacturing, food processing and paper making, etc, they will adopt the **process costing** system.

When two or more products are separated from a joint processing operation, that joint processing operation is known as separation point or split-off point. **Joint costs** incurred in the joint processing operation have to be allocated among the joint products.

There are three common methods to allocate the joint costs to the joint products. They are:

(a) Physical measurement basis;

(b) Sales value at split-off point basis; and

(c) Net realisable value (sales value of the end product less further processing costs beyond split-off point) basis.
After the split-off point joint products may be ready to sell or they can undergo further processing by incurring further processing costs to secure a higher sale value.

For example, in petroleum refining industry, crude oil and natural gas are joint products from the initial process. They can be sold separately after the split-off point. Crude oil can further refined to produce enhanced joint products such as petrol which can be sold at a much higher price.

The sell or process further decisions should be based the difference between the incremental revenue attainable and the further processing costs incurred beyond the split-off point. How the joint costs will be allocated to the joint products is irrelevant to the sell or process further decisions.

The decision rule is that the product should be processed further if the enhanced product generates additional contribution; and the product should be sold immediately after the split-off point if the enhanced product does not generate additional contribution.
Chai Wan Limited has a farm in Shenzhen which grows and processes chicken. Each chicken is disassembled into three main parts: breasts, wing and thigh. Every month it produces 50,000 pounds of breasts, 20,000 pounds of wings and 30,000 pounds of thighs at joint costs of $150,000. The company currently allocates the joint costs based on the physical measurement basis.

The company is considering whether to further process the joint products by taking a frying process to sell fried chicken breasts, wings and thighs.

The following information is also provided.
### Example 7 (3)

<table>
<thead>
<tr>
<th>Parts</th>
<th>Selling price per pound at split-off point</th>
<th>Further processing costs per pound</th>
<th>Selling price per pound of the fried products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breasts</td>
<td>$15</td>
<td>$5</td>
<td>$23</td>
</tr>
<tr>
<td>Wings</td>
<td>$8</td>
<td>$3</td>
<td>$15</td>
</tr>
<tr>
<td>Thighs</td>
<td>$10</td>
<td>$4</td>
<td>$13</td>
</tr>
</tbody>
</table>

### Example 7 (4)

**Required:**

Should the chicken breasts, wings and thighs be further processed?
Solution:

The joint costs to be allocated based on the physical measurement are irrelevant.

We have to compare the incremental revenues and the incremental process costs of the three products separately to decide which product(s) is/are worth to further process.

Solution:

Further processing chicken breasts into fried chicken breasts:

$$(23 - 15) \times 50,000 \text{ pounds} \quad 400,000$$

Less: Incremental process costs

$$5 \times 50,000 \text{ pounds} \quad 250,000$$

Increase in profit from fried chicken breasts $$150,000$$
Example 7 (7)

Solution:

Further processing chicken wings into fried chicken wings:

Incremental revenues
$(15 – 8) \times 20,000 \text{ pounds} \quad 140,000

Less: Incremental process costs
$3 \times 20,000 \text{ pounds} \quad 60,000

Increase in profit from fried chicken wings \quad 80,000

Example 7 (8)

Solution:

Further processing chicken thighs into fried chicken thighs:

Incremental revenues
$(13 – 10) \times 30,000 \text{ pounds} \quad 90,000

Less: Incremental process costs
$4 \times 30,000 \quad 120,000

Decrease in profit from fried chicken breasts \quad (30,000)
Example 7 (9)

Solution:

Chai Wan Limited should further process chicken breasts and chicken wings into fried chicken breasts and chicken wings, and sell chicken thighs in its raw form.

Eliminate or retain an unprofitable segment decisions (1)

It is quite common for companies to prepare divisional operating statements to assess the relative effectiveness and profitability of each segment.

Management may investigate into those unprofitable segments identified from segment operating statements and have to decide whether to keep it or not.
Eliminate or retain an unprofitable segment decisions (2)

The decision rule for retaining or eliminating by selling or shutting down an unprofitable segment, is to select the course of action that adds profit to the company.

Example 8 (1)

The following data relates to three products of Chai Wan Limited:

<table>
<thead>
<tr>
<th>Product</th>
<th>Lily</th>
<th>Peony</th>
<th>Rose</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$’000</td>
<td>$’000</td>
<td>$’000</td>
<td>$’000</td>
</tr>
<tr>
<td>Sales</td>
<td>600</td>
<td>800</td>
<td>1,000</td>
<td>2,400</td>
</tr>
<tr>
<td>Less: Variable costs</td>
<td>180</td>
<td>230</td>
<td>600</td>
<td>1,010</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>300</td>
<td>400</td>
<td>550</td>
<td>1,250</td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>630</td>
<td>1,150</td>
<td>2,260</td>
</tr>
<tr>
<td>Profit/(loss)</td>
<td>120</td>
<td>170</td>
<td>(150)</td>
<td>140</td>
</tr>
</tbody>
</table>

It has been suggested to sell the unprofitable product, Rose. $100,000 of the fixed costs of Rose are direct fixed costs which will be saved if its production ceases. All other fixed costs would remain the same.

**Required:**
Should product Rose be retained or eliminated?
Example 8 (2)

Solution:
To discontinue production of Rose, the operating results will be:

\[
\begin{align*}
\text{Loss of contribution (}$1,000,000 - $600,000\text{)} & \quad (400,000) \\
\text{Savings in attributable fixed costs} & \quad 100,000 \\
\text{Incremental loss} & \quad (300,000)
\end{align*}
\]

Chai Wan Limited should not discontinue the production of product Rose as it will cause a drop in profit of $300,000. Instead, the company may consider the possibility of switching the resources from producing Rose to other more profitable products.

Importance of qualitative factors (1)

Many examples above on business decision making are not based on financial consideration only but also involve consideration of qualitative factors.

In most situations, it is difficult to quantity in monetary terms all relevant factors in making a decision. These qualitative factors should be considered by the management during the evaluation process in order to make a wise decision.
Importance of qualitative factors (2)

For example, the cost of buying components from an outside supplier may be cheaper than producing internally. However, if such decision results in the closure of a segment for producing the components, this will likely lead to redundancies and create bad effect on employee morale, which can affect future productivity.

The decline in employee morale may not easily be quantified in monetary terms, but management has to think about its possible impact on the company’s future profitability.

Further consideration

In this unit, we ignore the time value of money in our analysis in situations that have cash inflows or outflows for more than one year. Take for example, in Example 8, if the time value of money is taken into account, the relevant cost items will be discounted at an appropriate discount rate (cost of capital) before the differential costs are computed.

For further information concerning the time value of money, please refer to Unit 10 “Capital Investment Appraisal”.
Further readings (1)


Further readings (2)

- 王怡心 (二00二年), *管理會計*, 台北: 三民書局，修訂二版，第十章。
This is the end of Unit 9. Please go to the Unit Assessment before attempting the next unit.