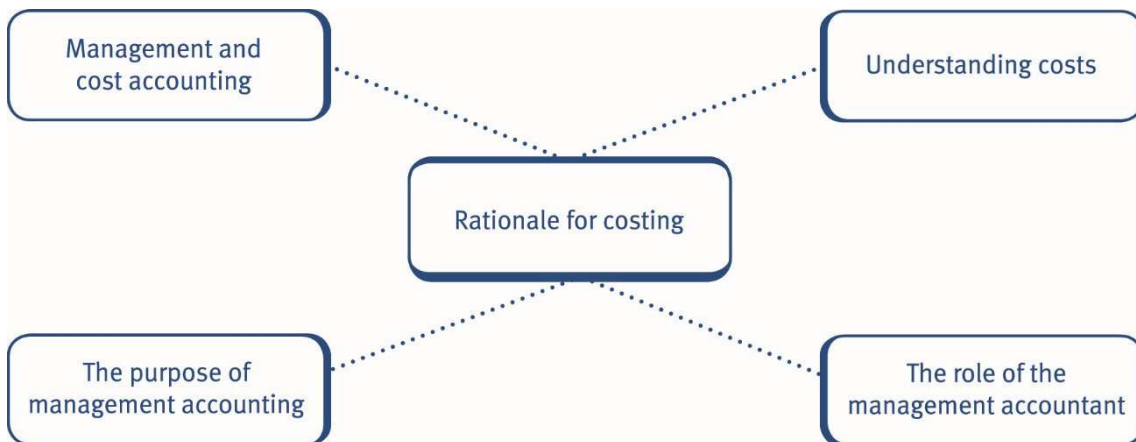


Rationales for costing

Chapter learning objectives

Lead outcome	Component outcome
A1. Distinguish between the different rationales for costing	(a) Define costing (b) Distinguish between the rationales for costing
A2. Apply the main costing concepts to organisations and cost objects	(a) Explain the main costing elements

1 Chapter overview diagram



In this chapter we will introduce cost and management accounting. These will be defined and their purpose explained. It will be important that you understand the reasons for calculating costs and how management accounting can play a role in the operations of a business.

For students who have studied at the CIMA Certificate level much of this chapter will be familiar to you.

2 Management and cost accounting

Accountancy involves the measurement, analysing and reporting of financial and non-financial information to help managers, shareholders and other interested parties make decisions about organisations.

As a student of CIMA, a major focus of your studies will be on a part of accountancy called management accounting.



The *CIMA Terminology* defines **management accounting** as 'the application of the principles of accounting and financial management to create, protect, preserve and increase value for the stakeholders of for-profit and not-for-profit enterprises in the public and private sectors.'

Cost accounting is a sub-set of management accounting. Cost accounting is focused more on calculating the costs of a product or service and extending this into potentially controlling and managing this cost. It means that the focus is often on short-term improvements and decisions.



The *CIMA Terminology* defines **cost accounting** as 'the gathering of cost information and its attachment to cost objects, the establishment of budgets, standard costs and actual costs of operations, processes, activities or products; and the analysis of variances, profitability or the social use of funds.'

Cost accounting tends to be more useful for operational and tactical decisions.



Operational and tactical decisions

Operational decisions are decisions made mainly by low level managers which focus on day-to-day resource management. It will involve decisions such as where to employ staff, what type and how much staff to use, which machines to employ, what materials to use etc.

Tactical decisions are employed by middle-level managers and are more medium term in scope. It will involve decisions on areas such as staff training and recruitment, changing suppliers, purchasing new machines etc.

Management accounting will take a broader view of the business and take decisions that include a more strategic basis with a longer-term view.



Strategic decisions

Strategic decisions are made by the highest level of management in an organisation. These decisions will consider areas such as whether to launch a new product, whether to expand into new markets or whether to buy other organisations.

Cost accounting mainly focuses on quantitative data such as how much a piece of material costs or how long staff should spend on providing a particular service (i.e. quantitative data is data that can be measured, often in financial terms).

Management accounting will expand this by adding qualitative data such as the impact on customer satisfaction or employee motivation. Qualitative data is much more difficult to measure and quantify.

A comparison to financial accounting

Now that we are clear about the meaning of management accounting we can compare it with another branch of accounting, financial accounting, which you will study as part of your CIMA qualification.



The *CIMA Terminology* defines **financial accounting** as 'classification and recording of the monetary transactions of an entity in accordance with established concepts, principles, accounting standards and legal requirements and their presentation, by means of statements of profit or loss, statements of financial position and cash flow statements, during and at the end of an accounting period'.

Look back at the definition of management accounting and you will see that these two are very different.



Details on the differences

You can see from this that the role of the financial accountant is much more clearly defined and narrower than that of the management accountant. There is also a legal aspect to financial accounting. It is a legal requirement for organisations to produce financial statements which show a true and fair view of their financial position for each accounting period. There is no legal requirement to have management accounting. Financial accounting is also governed by many rules and regulations whereas there are no rules covering how the management accountant provides information. They will provide whatever is required by their managers in whatever format suits the particular organisation. Financial accountants deal with historical (past) financial information, while management accountants deal with all types of information (financial and non-financial) both historical and future. The main role of financial accounting is to produce the statutory financial statements, whereas management accountants provide any information needed by management. It is important from this to see that the audiences using management and financial accounting information are different. Management accountants provide information internally to managers. The statutory financial reports produced by the financial accountants are available to the public and to anyone who has an interest in the organisation.

The differences can be summarised as follows:

Financial accounting	Management accounting
For external use	For internal use
Statutory requirement	At the discretion of management
Concerned with the production of statutory accounts for an organisation	Concerned with the provision of information to management to aid decision making
Governed by many rules and regulations	Not governed by rules or regulations, can be provided in any format



Example 1

Consider the following statements relating to management accounting:

- (i) The main purpose of management accounting statements is to provide a true and fair view of the financial position of an organisation at the end of an accounting period.
- (ii) Management information may be presented in any format deemed suitable by management.

Which of the above statements is/are true?

- A (i) and (ii)
- B (i) only
- C (ii) only
- D neither

3 The purpose of management accounting

While providing information for decision making is clearly key to what management accountants do, their role is usually expanded to include **three** main elements:

- **Planning**
- **Control**
- **Decision making.**

These three purposes of management accounting (planning, control and decision making) form the basis of your Management Accounting subject. Each of these areas will be looked at in detail throughout this text book.

Planning

Planning involves establishing the objectives and goals of an organisation, i.e. what they are trying to achieve, and formulating relevant strategies (long-term actions to improve an organisation's position) that can be used to achieve those objectives and goals.

The management accountant will create **budgets** which explain the potential impacts of different courses of action. These budgets are financial plans of what will occur based on different assumptions.

Budgets are looked at in more detail in the budgeting chapter.

Control

Control is the process of monitoring, measuring, evaluating and correcting actual results to ensure that the organisation's plans are being achieved. Information relating to the actual results of an organisation must be gathered and can be compared to the budget. The differences between the actual and the budgeted results can be calculated and reported to management. These are known as **variances**. This type of information facilitates managers to determine whether the organisation is in or out of control and take corrective action if necessary.

We will study variances in detail in later chapters.

Decision making

We have seen already that decision making involves considering information that has been provided and making informed decisions. In most situations, decision making involves making a choice between two or more alternatives. Managers need reliable information to compare the different courses of action available and understand what the consequences might be of choosing each of them.

Managers at different organisational levels will take different type of decisions (operational, tactical and strategic).



Illustration 1

XYZ is a successful pizza restaurant which currently operates a chain of four restaurants, all of which offer the same standard menu.

Consider the following decisions which XYZ may have to make and suggest at what levels of management these decisions would be made.

- Start producing frozen pizzas and selling these through supermarkets.
- Hire a new waiter in one of the restaurants.
- Decide on the pricing of the dishes on the standard menu.
- Open a new restaurant.

Solution

- Starting production and sales of frozen pizzas is a fundamental change to what the company currently do and involves entering a new market. This would therefore be a **strategic** decision.
- Hiring a new waiter would be an **operational** decision as it involves a day to day decision which should be able to be made at a lower level.
- Deciding on the pricing is likely to be a **tactical** decision. In general, the strategic decisions decide on which markets in which to operate and tactical decisions will decide on how to operate within these markets. Pricing would come under this remit.
- Opening a new restaurant is a more difficult one. In this case a decision to expand the number of restaurants would likely be a **strategic** decision. In some much larger organisations this type of decision would be made considered a tactical decision. However given that XYZ only has four restaurants, then the decision to open a fifth would likely be made by the senior managers.



Example 2

LMN is an international clothing manufacturer specialising in producing waterproof jackets.

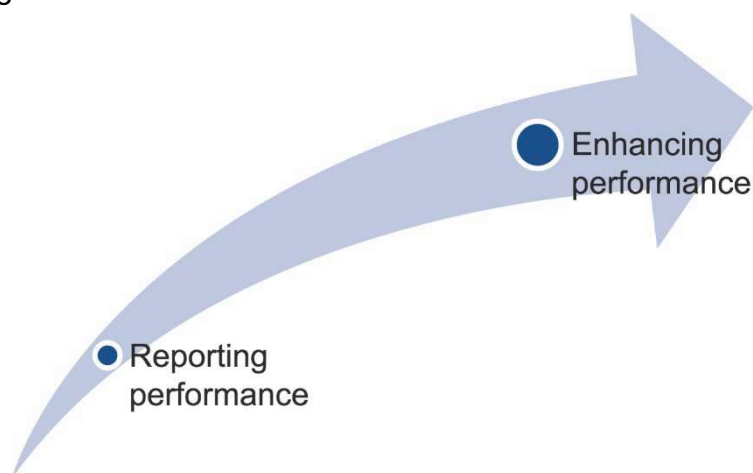
Match the following decisions to the type of decision that is being made:

Decision	Level
A decision to take over a rival company in order to expand its production into different markets	Strategic
A decision on the ordering of material for production	Tactical
A decision about the pricing of the products	Operational

4 The management accountant

At this point it is worth looking in more detail at the various roles management accountants play in organisations and how this has changed over the years.

The whole of the accountancy profession is changing, and this is especially true for the management accountant.



The traditional management accountant was largely involved in reporting business results to management, but this is no longer the case. Management accountants today are seen as **value-adding business partners** and are expected to not only forecast the future of the business, but to assist in delivering this future by identifying opportunities for enhancing organisational performance. Management accountants now work alongside business managers as mentors, advisors and drivers of performance.

Management accountants are an integral part of any business, providing a variety of information to management for the purposes of planning, control and decision making. Management accountants often hold senior positions in the organisation.



CIMA's definition of the role of the management accountant

The work of the Chartered Management Accountant (produced by CIMA):

Chartered management accountants help organisations establish viable strategies and convert them into profit (in a commercial context) or into value for money (in a not-for-profit context). To achieve this, they work as an integral part of multi-skilled management teams in carrying out the:

- formulation of policy and setting of corporate objectives
- formulation of strategic plans derived from corporate objectives
- formulation of shorter-term operational plans
- acquisition and use of finance
- design of systems, recording of events and transactions and management of information systems
- generation, communication and interpretation of financial and operating information (such as product costs) for management and other stakeholders
- provision of specific information and analysis on which decisions (such as how many units to produce or what products to make) are based
- monitoring of outcomes against plans (such as budgets) and other benchmarks and the initiation of responsive action for performance improvement
- derivation of performance measures and benchmarks, financial and non-financial, quantitative and qualitative, for monitoring and control; and
- improvement of business systems and processes through risk management and internal audit review.

Through these forward-looking roles and by application of their expert skills management accountants help organisations improve their performance, security, growth and competitiveness in an ever more demanding environment.

We will start to look at some of these functions in the *Management Accounting* syllabus, and others will be studied in later subjects.

It can be seen from this that there is no one clear definition of the role of the management accountant. Their work, experience and responsibilities are extraordinarily varied and continue to change to reflect the changing needs of stakeholders.

5 The importance of understanding costs



The word '**cost**' can be used in two contexts. It can be used as a noun, for example when we are referring to the cost of an item. Alternatively, it can be used as a verb, for example we can say that we are attempting to cost an activity, when we are undertaking the tasks necessary to determine the costs of carrying out the activity.

The understanding of costs is fundamental to your accounting studies.

In financial accounting all costs must be recorded so that profit can be calculated and the true and fair financial position can be presented in the financial statements.

In management accounting an understanding of costs is required in order to carry out the three main functions of planning, control and decision making. If we understand and calculate costs, we can use this information in a number of ways such as:

- Determining the cost to manufacture a product or provide a service can be used to record costs in the financial statements.
- The cost per unit can be used to value inventory in the statement of financial position.
- Cost information can inform decisions on our products or services. Product and service costs can be used to determine the selling price we should charge for our products or services. For example, if the cost per unit is \$0.30, the business may decide to price the product at \$0.50 per unit in order to make the required profit of \$0.20 per unit.
- Knowing the profit (or, as we will see in a later chapter, the contribution of a product) can help determine the products and services we should supply and in what quantity.
- The cost can also act as a benchmark for future performance. Differences from the expected (or standard) cost can be calculated (known as variances) and evaluated.



The cost transformation model

The CGMA cost transformation model is designed to help businesses to achieve and maintain cost competitiveness.

The model has six suggested changes for organisations aimed at achieving this objective. These changes are:

- Creating a cost conscious culture – the organisation should aim to be a cost leader so that its costs are lower than rivals and set a competitive benchmark. Everyone in the organisation should be motivated and enabled to reduce costs in whatever way possible. Technology can play a key role in reducing costs.
- Understanding cost drivers – this involves investigating costs to determine why they change and how different variables impact on the cost. Plans should be put in place to reduce the drivers of costs as well as the costs themselves.

- Managing the risks that come from a cost conscious culture – for example, reducing cost may result in reducing quality and customer satisfaction. The organisation should have a clear risk management process in place to identify, assess and manage such risks.
- Ensuring products and services are profitable – it will be important that every product or service makes a positive contribution to overall organisational profits. This will involve understanding what drives costs for each individual product and allocating shared costs to products as accurately as possible.
- Maximising value from new products – the potential profitability of new products should be assessed before production begins. Also, as part of product design, the product or service should be made to be as flexible as possible so that it appeals to or can be adapted to satisfy as many customer segments as possible.
- Consider the environmental impact of products – negative impacts (such as creating unnecessary waste) can add costs as well as damaging reputation and sales.

The model suggests a number of tools and models which can be used in order to achieve these changes. Many of these tools will be employed across your CIMA studies, some of them in this text, such as Activity Based Costing which considers cost drivers and how these can be used to allocate shared costs to products.

Cost units, cost centres and cost objects

Costs can be attributed to cost units, cost centres or cost objects.



The *CIMA Terminology* defines a **cost unit** as ‘a unit of product or service in relation to which costs are ascertained’.

This means that a cost unit can be **anything for which it is possible to ascertain the cost**. The cost unit selected in each situation will depend on a number of factors, including the amount of information available and the purpose for which the cost unit will be used.

A cost unit can be anything which is measurable and useful for cost control purposes. For example, a company manufacturing a mobile phone might calculate the cost per mobile phone. Or perhaps if the phones are made and sold in very large quantities the cost per 1,000 phones might be used instead.

Not all cost units will be for tangible items. Intangible items cannot be seen and touched and do not have physical substance but they can be measured, for example the cost per chargeable hour of accounting service.



A **cost centre** is a production or service location, a function, an activity or an item of equipment for which costs are accumulated.

A cost centre is one type of responsibility centre. Responsibility centres will be covered in the budgeting chapter. A cost centre is used as a ‘collecting place’ for costs.

The cost of operating the cost centre is determined for the period, and then this total cost is related to the cost units which have passed through the cost centre. An example of a production cost centre could be the machine shop in a factory. The production cost for the machine shop might be \$100,000 for the period. If 1,000 cost units have passed through this cost centre we might say that the production cost relating to the machine shop was \$100 for each unit.

Other examples of a cost centre are a canteen department, a project management team or a subsidiary of a company. Costs could be collected for each of these cost centres. Every organisation will have its own cost centres for accumulating costs.



The *CIMA Terminology* contains the following for **cost objects**: 'For example a product, service, centre, activity, customer or distribution channel in relation to which costs are ascertained.'

All of the cost units and cost centres we have described in this chapter are therefore types of cost object.

Classification of costs

In order to calculate costs we need to understand them. A key to this is understanding different ways in which costs can be classified.

There are three main ways to classify costs:

- by behaviour
- by element
- by nature

What follows is some revision on these different types of classification

Classification of costs according to their behaviour

Before calculating costs we need to understand how different costs behave.

In cost accounting we typically classify costs by three types of behaviour:

- Fixed costs – costs which don't change as the activity level changes
- Variable costs – costs which change in direct proportion to changes in the activity level
- Semi-variable costs – costs which have both fixed and variable elements.



Different cost behaviours

Many factors affect the level of costs incurred; for instance, inflation will cause costs to increase over a period of time. In management accounting, when we talk about cost behaviour we are referring to the way in which costs are affected by fluctuations in the level of activity. The level of activity can be measured in many different ways. For example, the number of units produced, miles travelled, hours worked, percentage of capacity utilised and so on.

An understanding of cost behaviour patterns is essential for many management tasks, particularly in the areas of planning, decision-making and control. It would be impossible for managers to forecast and control costs without at least a basic knowledge of the way in which costs behave in relation to the level of activity.

Fixed cost

The CIMA Terminology defines a fixed cost as 'a cost which is incurred for an accounting period that, within certain output or turnover limits, tends to be unaffected by fluctuations in the levels of activity (output or turnover)'.

Examples of fixed costs are rent, rates, insurance and executive salaries. However, it is important to note that this is only true for the relevant range of activity. Consider, for example, the behaviour of the rent cost. Within the relevant range it is possible to expand activity without needing extra premises and therefore the rent cost remains constant. However, if activity is expanded to the critical point where further premises are required, then the rent cost will increase to a new, higher level. This cost behaviour pattern can be described as a stepped fixed cost. The cost is constant within the relevant range for each activity level but when a critical level of activity is reached, the total cost incurred increases to the next step.

This warning does not only apply to fixed costs: it is never wise to attempt to predict costs for activity levels outside the range for which cost behaviour patterns have been established.

Also, whilst the fixed cost total may stay the same within a relevant activity range, the fixed cost per unit reduces as the activity level is increased. This is because the same amount of fixed cost is being spread over an increasing number of units.

Variable cost

The CIMA Terminology defines a variable cost as a 'cost that varies with a measure of activity'.

Examples of variable costs are direct material, direct labour and variable overheads. In most examination situations, and very often in practice, variable costs are assumed to be linear.

Although many variable costs do approximate to a linear function, this assumption may not always be realistic. Non-linear variable costs are sometimes called curvilinear variable costs. There may be what are known as economies of scale whereby each successive unit of activity adds less to total variable cost than the previous unit. An example of a variable cost which follows this pattern could be the cost of direct material where quantity discounts are available.

On the other hand, there may be what are known as diseconomies of scale which indicates that each successive unit of activity is adding more to the total variable cost than the previous unit. An example of a variable cost which follows this pattern could be the cost of direct labour where employees are paid an accelerating bonus for achieving higher levels of output.

The important point is that managers should be aware of any assumptions that have been made in estimating cost behaviour patterns. They can then use the information which is based on these assumptions with a full awareness of its possible limitations.

Semi-variable cost

A semi-variable cost is also referred to as a semi-fixed, hybrid, or mixed cost. The CIMA Terminology defines it as 'a cost containing both fixed and variable components and thus partly affected by a change in the level of activity'.

Examples of semi-variable costs are gas and electricity. Both of these expenditures consist of a fixed amount payable for the period, with a further variable amount which is related to the consumption of gas or electricity.

Alternatively, the cost might remain constant up to a certain level of activity and then increase as the variable cost element is incurred. An example of such a cost might be the rental cost of a photocopier where a fixed rental is paid and no extra charge is made for copies up to a certain number. Once this number of copies is exceeded, a constant charge is levied for each copy taken.

Classification of costs according to their element

As well as classifying costs by their behaviour costs can also be classified according to their element.

Classifying costs according to their element means grouping costs according to whether they are **material**, **labour** or **expense** cost. These are the three main cost elements.



Cost elements

Materials are the components bought in by the company which are used in manufacturing the product. For example, the materials used by a food producer could be meat or vegetables. Material costs include the cost of obtaining the materials and receiving them within the organisation.

Labour costs are the costs of the people working for the organisation. These costs include wages and salaries, together with related employment costs.

Expense costs are the regularly incurred costs of running the business such as rent, business rates, utility costs, insurance, postage, telephones and similar items.

Note: Within the cost classifications there can be subdivisions; for example, within the materials classification the subdivisions might include the following:

- Raw materials, that is, the basic raw material used in the manufacturing process.
- Components, that is, complete parts that are used in the manufacturing process.
- Consumables, that is, cleaning materials, etc.
- Maintenance materials, that is, spare parts for machines, lubricating oils, etc.

This list of subdivisions is not exhaustive, and there may even be further subdivisions of each of these groups. For example, the raw materials may be further divided according to the type of raw material, for example steel, plastic, glass, etc.

Classification of costs according to their nature

When costs are classified having regard to their nature, the broadest classification of this type is to divide costs into **direct** costs and **indirect** costs.

- Direct costs – costs which can be directly traced to the cost object that we are trying to cost.
- Indirect costs – costs which cannot be directly traced to a single cost object.



Direct and indirect costs

Direct costs can be clearly identified with the cost object we are trying to cost. For example, suppose that a furniture maker is determining the cost of a wooden table. The manufacture of the table has involved the use of timber, screws and metal drawer handles. These items are classified as **direct materials**. The wages paid to the machine operator, assembler and finisher in actually making the table would be classified as **direct labour**. The designer of the table may be entitled to a royalty payment for each table made, and this would be classified as a **direct expense**.

The total of all direct costs is known as the **PRIME COST**.

Indirect costs cannot be directly attributed to a particular cost unit, although it is clear that they have been incurred in the production of the table. These indirect costs are often referred to as production **overheads**. Examples of indirect production costs are as follows:

Cost incurred	Cost classification
Lubricating oils and cleaning materials	Indirect material
Salaries of factory supervisors	Indirect labour
Factory rent and power	Indirect expense

It is important to realise that a particular cost may sometimes be a direct cost and sometimes an indirect cost. It depends on the cost object we are trying to cost.

For example, consider a member of a quality inspection department in a production factory. The salary for this employee will be a direct cost for the cost centre (the quality inspection department) if that is the object that we are trying to cost. But it would be an indirect cost for the units produced in the factory (the cost units) as it cannot be directly traced to one individual cost unit.

Another way of classifying costs by their nature is to classify a cost as a period or product cost.

- Product costs – costs which are only incurred if production takes place.
- Period costs – costs which are incurred due to the passage of time.



Product and period costs

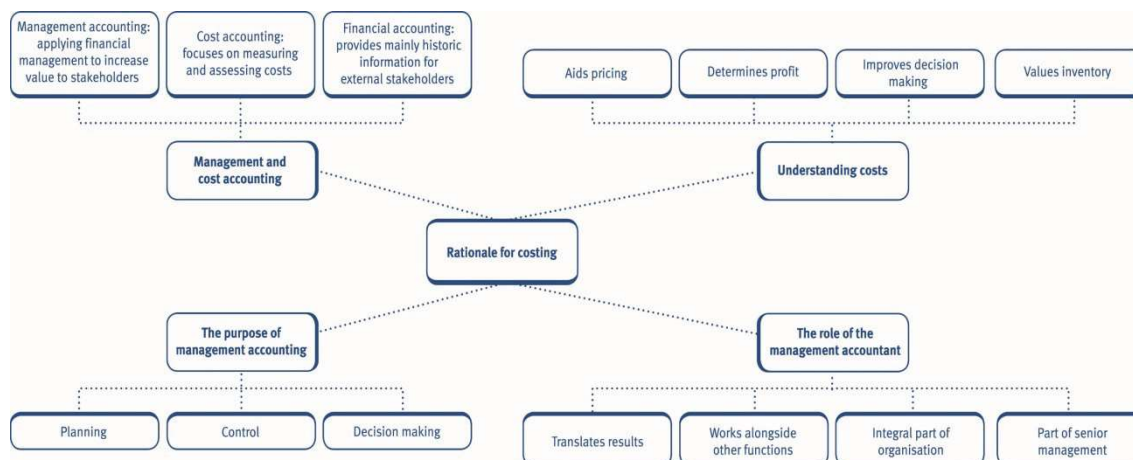
Product costs would include direct material, direct labour and absorbed production overheads. Therefore if an organisation does not produce any items it will not incur any product costs.

Period costs include costs such as rent and rates, insurance, directors' salaries and depreciation. These costs accrue on daily, monthly or annual basis and will still accrue even if an organisation does not produce any items.



It will be vital for most of the chapters in this syllabus that you understand the behaviour, elements and nature of different types of cost.

6 Chapter summary



7 Practice questions



Test your understanding 1

Direct costs are:

- A costs that can always be identified with a single cost object
- B all costs that are expensed to the Income Statement
- C costs that can be attributed to a single accounting period
- D costs that change in direct proportion to the number of units produced.



Test your understanding 2

Consider the following information characteristics.

For each, decide which characteristic is most appropriate at the strategic level and which would be more appropriate at the operational level.

	Strategic	Operational
Detailed/Summarised		
Historical/Future		
Focused/Wide ranging		
Frequent/Infrequent		



Test your understanding 3

State which three of the following characteristics relate to financial accounting:

- A For internal use
- B Governed by rules and regulations
- C Required by law
- D Output is mainly used by external parties
- E One of its main purposes is planning

Example and test your understanding answers



Example 1

C

Statement (i) is incorrect as providing a true and fair view of the financial position of the organisation is only relevant to financial accounting.



Example 2

The correct matching is:

Decision	Level
A decision to take over a rival company in order to expand its production into different markets	Strategic
A decision on the ordering of material for production	Operational
A decision about the pricing of the products	Tactical



Test your understanding 1

A

Direct costs are costs directly attributable to the item being costed, which can be a single unit or a batch of cost units. D may be true but is the definition of a variable cost. Direct costs will normally be charged to the Income Statement (option B), but not all costs that are charged to the Income Statement will be direct costs. Direct costs are attributed to units (or batches) not accounting periods.



Test your understanding 2

Strategic	Operational
Subjective	Objective
Summarised	Detailed
Future	Historical
Wide ranging	Focused
Infrequent	Frequent

**Test your understanding 3****B, C and D**

A and E relate to management accounting.

Management accounting is internally focused and one of its main purposes is planning.

Financial accounting is governed by rules and regulations, required by law and its output is mainly used by external parties.