Chapter 8 revision notes

Cost behaviour

Management accounting

Management accounting may be defined as the application of the principles of accounting and financial management to create, protect, preserve and increase value so as to deliver that value to the stakeholders of profit and not-for-profit enterprises, both public and private. Management accounting is an integral part of management, requiring the identification, generation, presentation, interpretation and use of information relevant to:

- formulating business strategy involves setting the long-term objectives of the business
- planning and controlling activities deal with short-term objectives and investigations into the differences that may arise from actual outcomes against the plan and the recommendation and implementation of remedial actions
- decision-making includes identification of those items of information relevant to a particular decision and those items that may be ignored
- efficient resource usage may be determined from the process of setting short-term budget plans and in their implementation
- performance improvement and value enhancement includes cost reduction and profit improvement exercises and the implementation of improvement initiatives such as quality costing, continuous improvement, and benchmarking
- safeguarding tangible and intangible assets - the management of fixed assets and working capital are key accounting responsibilities in ensuring that there is no undue diminution in the value of such assets like buildings, machinery, stocks and debtors, through for example poor management, and weak physical controls and to ensure that every endeavour is made to maximise returns from the use of those assets
- corporate governance and internal control, which are concerned with the ways in which, for example, companies are controlled, the behaviour and accountability of directors and their levels of remuneration, and disclosure of information

Management accounting is primarily concerned with the provision of information to people within the organisation for:

- product costing
- forecasting, planning and control
- decision-making

Management accounting concepts

In addition to the fundamental accounting concepts, there are further fundamental management accounting concepts that do not represent any form of external regulation but are fundamental principles for the preparation of internal management accounting information:

- the accountability concept
- the controllability concept
- the interdependency concept
- the relevancy concept
- the reliability concept

The nature of costs

Cost (as a noun) is an amount of expenditure attributable to a specified thing or activity, but also relates to a resource sacrificed or forgone, expressed in a monetary value.

Cost (as a verb) may be used to say that to cost something is to ascertain the cost of a specified thing or activity, but cost is not a word that is usually used without a qualification as to its nature and limitations.

Costs and revenues are terms that are inextricably linked to accounting. Revenues relate to inflows of assets such as cash and accounts receivable form debtors, or reductions in liabilities, resulting from trading operations. Costs generally relate to what was paid for a product or a service. It may be a past cost:

- a particular use of resources forgone to achieve a specific objective
- a resource used to provide a product or a service
- a resource used to retain a product or a service

Cost accumulation relates to the collection of cost data. Cost data may be concerned with past costs or future costs.

Costs are dependent on, and generally change with, the level of activity. The greater the volume or complexity of the activity, then normally the greater is the cost. There are three main elements of cost:

- fixed cost
- variable cost
- semi-variable cost (or semi-fixed, or mixed cost)

The total costs of an entity comprise three categories:

- staff costs, the costs of employment which include
  - gross pay
  - paid holidays
  - employer's contributions to National Insurance
  - pension schemes
  - sickness benefit schemes
  - other benefits, for example protective clothing and canteen subsidies
- materials include
  - raw materials purchased for incorporation into products for sale
  - consumable items
  - packaging
- expenses, relating to all costs other than materials and labour costs

Each of the above three categories may be further analysed into:

- direct costs
- indirect costs

Direct costs are directly identified with cost objects. A cost object is the thing we wish to determine the cost of. Direct costs include direct labour, direct materials, and direct overheads. The total cost of direct materials, direct labour and direct expenses, or overheads, is called prime cost.

Indirect costs, or overheads, have to be allocated or apportioned to cost units, cost centres, or cost accounts using appropriate bases for allocation and apportionment. Indirect costs are untraceable to particular units (compared with direct costs). Indirect costs include expenditure on labour, materials or services, which cannot be identified with a saleable cost unit.

Indirect costs may relate to:

- the provision of a product
- the provision of a service
- other ‘sales and administration’ activities

Total indirect costs may therefore be generally categorised as:

- production costs
- sales and marketing costs
- distribution costs
- administrative costs
- research and development costs

Indirect costs relating to production activities have to be allocated, that is, assigned as allocated overheads to any of the following:

- a single cost unit
  - a unit of product or service in relation to which costs are ascertained
- a cost centre
  - a production or service location, function, activity or item of equipment for which costs are accumulated

- a cost account

  a record of the expenditure of a cost centre or cost unit
- a time period

Relevant costs

Relevant costs (and revenues) are the costs (and revenues) appropriate to a specific management decision. They are represented by future cash flows whose magnitude will vary depending upon the outcome of the management decision made. If stock is sold to a retailer, the relevant cost, used in the determination of the profitability of the transaction, would be the cost of replacing the stock, not its original purchase price, which is a sunk cost. Sunk costs, or irrecoverable costs, are costs that have been irreversibly incurred or committed prior to a decision point and which cannot therefore be considered relevant to subsequent decisions.

Opportunity costs

An opportunity cost is the value of the benefit sacrificed when one course of action is chosen in preference to an alternative. The opportunity cost is represented by the forgone potential benefit from the best of the alternative courses of action that have been rejected.

Cost allocation and cost apportionment

The indirect costs of service departments may be allocated both to other service departments and to production departments. Allocation of overheads is the charging to a cost centre those overheads that result solely from the existence of that cost centre. Cost assignment defines the process of tracing and allocating costs to the cost object. Overheads are allocated where possible, but allocation can only be done if the exact amount incurred is known without having to carry out any sort of sharing. If the amount is not known and it is not possible to allocate costs then the total amount must be apportioned.

Apportionment is the charging to a cost centre of a fair share of an overhead on the basis of the benefit received by the cost centre in respect of the facilities provided by the overhead.

Therefore, if an overhead cannot be allocated then it must be apportioned, involving use of a basis of apportionment, a physical or financial unit, so that the overhead will be equitably shared between the cost centres. Bases of apportionment, for example, that may be used are:

- area - for rent, heating and lighting, building depreciation
- number of employees - for personnel and welfare costs, safety costs
- weights or sizes - for materials handling costs, warehousing costs

The basis chosen will use the factor most closely related to the benefit received by the cost centres.

Once overheads have been allocated and apportioned, perhaps via some service cost centres, ultimately to production cost centres, they can be charged to cost units. A cost unit is a unit of product or service in relation to which costs are ascertained. A unit cost is the average cost of a product or service unit based on total costs and the number of units.

The unit cost ascertainment process involves taking each cost centre and to share its overheads among all the cost units passing through that centre. This process is similar to apportionment but in this case cost units are charged instead of cost centres. This process of charging costs to cost units is absorption and is defined as the charging of overheads to cost units. The cost of converting material into finished products, that is, direct labour, direct expense and production overhead, is called the conversion cost.

Unit costs of products, services or activities may be determined using the traditional costing techniques of either absorption costing or marginal costing.

Absorption costing

Absorption costing looks at profit considered at the level of total revenue less total cost. The allocation and apportionment process is termed absorption costing, or full costing. This process looks at costing in terms of the total costs of running a facility like a hospital, restaurant, retail shop, or factory, being part of the output from that facility. This is one method of costing that, in addition to direct costs, assigns all, or a proportion of, production overhead costs to cost units by means of one or a number of overhead absorption rates. There are two steps involved in this process:

- computation of an overhead absorption rate
- application of the overhead absorption rate to cost units

The basis of absorption is chosen in a similar way to choosing an apportionment base. The overhead rate is calculated using:

overhead absorption rate = $\frac{\textbf{total cost centre overheads}}{\textbf{total units of base used}}$

There are many bases that may be used for calculation of the overhead absorption rate, for example:

- units of output
- direct labour hours
- machine hours

It can be seen that absorption costing is a costing technique whereby each unit of output is charged with both fixed and variable production costs. The fixed production costs are treated as part of the actual production costs. Stocks, in accordance with SSAP 9, are therefore valued on a full production cost basis and 'held' within the balance sheet until the stocks have been sold, rather than charged to the profit and loss account in the period in which the costs of the stocks are incurred. When the stocks are sold in a subsequent accounting period these costs are matched with the sales revenue of that period and charged to the profit and loss account.

In order for costings to be carried out from the first day of operations, overhead rates are invariabl calculated on the basis of expected future, or budgeted overheads and the number of units of manufacturing capacity. Actual overheads and levels of production are unlikely to exactly equal budgeted amounts and so the use of budgeted overhead absorption rates will inevitably lead to an overhead over or under-absorption, which are transferred (usually) monthly to the profit and loss account, for internal management accounting reporting.

Marginal costing

The marginal costing system is another way of considering profitability, in terms of contribution.

contribution = total revenue - variable costs

Marginal costing, variable costing, or period costing, is a costing technique whereby each unit of output is charged only with variable production costs.

The costs which are generated solely by a given cost unit are the variable costs associated with that unit, including the variable cost elements of any associated semi-variable costs. Marginal cost ascertainment includes all unit direct costs plus the variable overhead cost per unit incurred by the cost unit. The marginal cost of a unit may be defined as the additional cost of producing one such unit.

Contribution may be expressed as:

- total contribution
- contribution per unit
- contribution as a percentage of sales

Fixed production costs are not considered to be real costs of production, but costs which provide the facilities, for an accounting period, that enable production to take place. They are therefore treated as costs of the period and charged to the period in which they are incurred against the aggregate contribution. Stocks are valued on a variable production cost basis that excludes fixed production costs.

Some specific features of the marginal costing technique are:

- its recognition of cost behaviour, providing better support for sales pricing and decision-making
- it allows better control reports to be prepared because contribution is based on, and varies with, the sales level
- fixed costs may be addressed within the period that give rise to them

Marginal costing is not suitable for stock valuation in line with accounting standard SSAP 9, because there is no fixed cost element included.

Absorption costing versus marginal costing

There are many arguments for and against the use of the techniques of both absorption costing a marginal costing, revolving mainly around the basis chosen for allocation and apportionment of overheads.

In the long run, over several accounting periods, the total recorded profit of an entity is the same regardless of whether absorption costing or marginal costing techniques are used. The difference is one of timing. The actual amounts of the costs do not differ, only the period in which they are charged against profits.

Marginal costing developed from absorption costing in recognition of the differences in behaviour between fixed costs and variable costs. In most industries, as labour costs continue to become a smaller and smaller percentage of total costs, traditional costing methods, which usually absorb costs on the basis of direct labour hours or machine hours, have been seen to be increasingly inappropriate.