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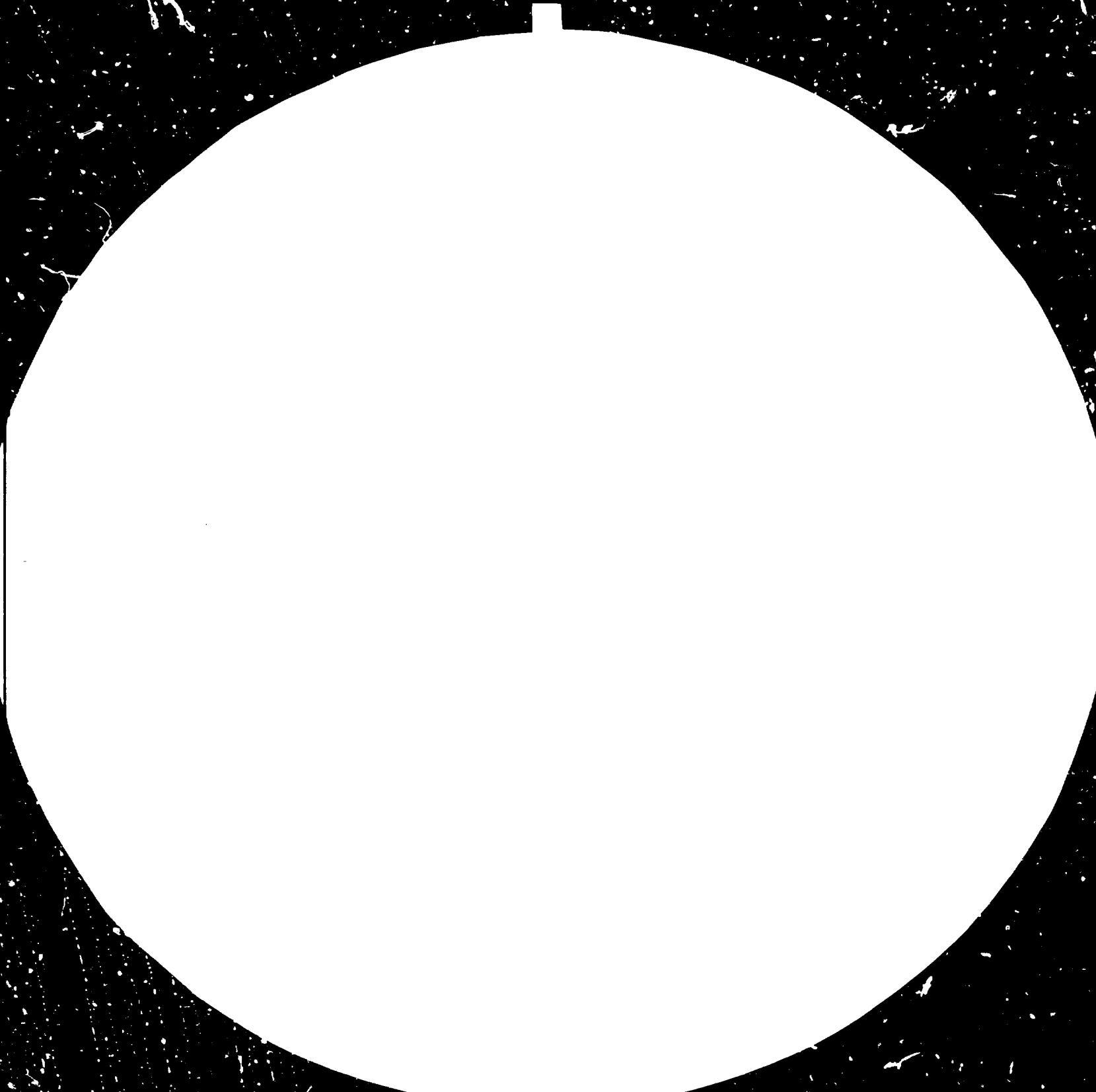
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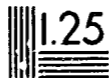
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COSTING: GENERAL CONSIDERATIONS \*

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2486

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To put costing in its perspective, I invite you to dwell upon the primary objective of the business enterprise.

Profit v/s Profitability

There is no doubt that commercial enterprises are profit motivated. Whatever the stigma attached to this, it still makes sense - indeed a lot of sense - that profit remains the sole motivation of business promoters. Profit should, however, not be confused with the profitability of the enterprise.

In trying to define profit and profitability, we are already in the domain of costing. Profit as you all know is the difference between the selling price and the cost of making a product. More precisely, it is the identifiable gain resulting in the form of excess value on selling price as compared to the cost of the product or service. Profit relates to one specific product/line of product or service.

Profitability, however, relates to the overall operation of the enterprise. It is influenced by management decisions taken to enhance the earning capacity of the firm which may be operating at a profit or less in the short term. Obviously then, profitability concerns itself with the long term survival of the enterprise. The rationality of management decision to earn a profit in the short term certainly goes a long way to enhance and ensure a fair level of profitability of the enterprise. It also goes without saying that profitability can exist without profit - for example, in the case of potential gain (long term) as against a current loss. This may occur in the case of a new venture or a product line, or in the case of a "product leader".

It has been seen that variable or marginal costs vary directly with production, whereas fixed costs remain fixed regardless of the volume produced. This cost behaviour, when related to sales income shows the cost/volume/profit relationship which is the net effect that change in cost, price and volume has on profits.

The relationship between costs and revenues, and therefore profits, at different levels may be expressed graphically, in the form of a "break even chart" or in a statement form, as shown hereunder:

Cost Statement of a Simple Product

	<u>Product A</u>	
Sales value		x
less marginal cost:		
prime cost	x	
variable overhead	<u>x</u>	<u>x</u>
contribution		<u>x</u>
less fixed costs		<u>x</u>
profit		<u><u>x</u></u>

The above statement offers the advantage of computing and presenting the cost of a group of products and their individual contribution towards the enterprise, fixed costs, and the profitability of each product. It may be that one product has no contribution and has a loss, which in theory should be omitted. In practice, however, this product (termed as a "loss leader") is retained as it is a booster to other products in the line.

Any increases in the profit margin will obviously ensure a better profitability right from the start. Management therefore decides whether or not a policy of immediate profit is viable in the current business environment (i.e. competition). Increasing profit means maintaining or reducing costs and increasing prices. All of these variables may not be as easy to change in the short term period. In many instances, selling price is unalterable - in fact has to be kept to the lowest possible level to confront competitors. The choice therefore is limited to cost reductions. Admittedly there is no magic formula to cost reductions. Constant efforts are, however, made - for example, a value analysis engineering exercise does sometimes yield the desired results - to decrease production costs.

Product pricing, generally is dictated by the level of competition in that particular field of activity. Product pricing policies are again an important concern for management. A pricing policy will be determined by the marketing strategy of the organization, which may be:

- market penetration
- market development.

The pricing policy may also at the same time focus on a satisfactory rate of return on investments. Whatever the pricing policy is, it is important to note that the price of a product should reflect a fair and reasonable value that the buyer is prepared to pay for the product. Admittedly, product pricing and product costing often appear to be a difficult and easy process at the same time.

It is difficult because of the lack of precise market information, unfair competition, difficulties of costs identification, their classification and allocation, laying down in precise terms the criteria for a pricing policy compatible with the firm's objective and the implementation of a marketing strategy. It may be easy, because fortunately enough, there are already certain fundamental costing and pricing systems developed to assist in the scientific computation of costs and their eventual use in the pricing of the product.

The crux of the subject, therefore is to arrive at a right balance between a product cost and the product price which will yield the highest profit margin and eventually will ensure the firm's profitability.

#### Costing

We will now move to costing proper.

Costing may be defined as "The techniques and processes of ascertaining costs". This can be expanded: "The classification, recording and appropriate allocation of ex-



penditure for the determination of the costs of products or services, the relation of these costs to sales values and the ascertainment of profitability".

These costs may be ascertained:

- (a) historically, that is, after they have been incurred, or
- (b) by predetermined standards, combined with subsequent analysis of variances between those standards, and the actual cost incurred and
- (c) by the use of marginal (costing) methods of presentation for either (a) or (b) above, involving the differentiation between "fixed" and "variable" costs.

#### Why costing/cost accounts?

Costing enables a business not only to find out what various jobs or processes have cost but also what they should have cost: it indicates where losses and waste are occurring before the work is finished and therefore immediate action may be taken, if possible, to avoid such loss or waste.

Business policy may require the consideration of alternative methods and procedures and this is facilitated by cost information correctly presented. For example, by the aid of cost reports management can decide whether the manufacture of certain products increases overhead expenditures disproportionately, whether to treat by-products even if at a loss, to make possible a more important trade in another product, whether the plant and machinery could be used more advantageously by concentrating on particular products to the exclusion of less profitable ones, or whether prices could or should be adjusted.

To bring out the importance and significance of the above, let us consider a simple illustration.

The following information is supplied by the financial accounts:

Materials consumed.....	20,000
Wages paid.....	15,000
Other expenses.....	18,000
Total cost.....	<u>53,000</u>
Sales.....	<u>60,000</u>
Gross Profit.....	<u>7,000</u>

The cost accountant, however, will proceed with a breakdown of the above figures, assuming that three different products, A, B and C were manufactured.

	<u>Product A</u>	<u>Product B</u>	<u>Product C</u>	<u>Total</u>
Materials.....	7,000	8,000	5,000	20,000
Wages.....	8,000	5,000	2,000	15,000
Other expenses.....	10,000	6,000	2,000	18,000
Total Cost.....	<u>25,000</u>	<u>19,000</u>	<u>9,000</u>	<u>53,000</u>
Sales.....	<u>30,000</u>	<u>18,000</u>	<u>12,000</u>	<u>60,000</u>
Gross profit.....	<u>5,000</u>	<u>-1,000</u>	<u>3,000</u>	<u>7,000</u>

It is now clear that the total expenditure of Rs 53,000 is classified into the elements (materials, wages and other expenses) and then the cost against each element is allocated or apportioned to the three products to give the cost of each. If the number of units manufactured is given, then the cost per unit for each product can be determined that is, suppose 100 units of product A are produced:

	<u>Cost of Product A</u>	<u>100 Units</u>
	<u>Total cost</u>	<u>Cost/unit</u>
Materials.....	7,000	70.00
Wages.....	8,000	80.00
Other expenses.....	10,000	100.00
	<u>25,000</u>	<u>250.00</u>

Referring to the above simplified figures, it may be clear that cost accounting therefore gives a better view of the operations in the production department with a view to securing management cost control. Although the gross profit was Rs. 7,000.- the cost records show that product B incurred a loss of Rs.1,000; a situation which the financial records failed to reveal.

### Elements of Cost

Generally speaking all expenditures may be divided into groups corresponding to the activities of a manufacturing concern, that is:

- Production Department
- Service Department (maintenance)
- Works expenses (factory building repairs)
- Administration expenses (office salaries, postage, telephones, etc.)
- Selling expenses (commission, discount to customers, etc.)
- Distribution expenses (cost of running a delivery van, etc.)

Again, we have seen earlier that the total cost of a product can be separated under the three broad headings:

- (a) material cost
- (b) labour cost
- (c) overhead cost.

These three groups of expenditure constitute the elements of cost.

### Cost Classification

#### Functional costs

Referring to the above functions of a manufacturing concern, we have basically the following types of cost:

- manufacturing/production costs
- administration costs
- selling and distribution costs
- research and development costs
- pre-production costs

The above types of costs are self-explanatory. It should be noted that these costs would be significant depending on the size and nature of enterprise.

Attributable costs - direct/indirect:

In certain cases, costs are easily identifiable and therefore, attributable to a particular product or service. While in other cases, these costs are not directly associated with the products but their existence has an equal importance in the organization.

Thus, costs are direct or indirect to the product.

- (1) Direct materials cost is the cost of materials which can be identified with and allocated to cost centres or cost units. Direct material is that material which becomes a part of the product. However, there are some material which becomes part of the product, but are used in comparatively small quantities and have very negligible costs. Such materials are conveniently grouped under indirect materials as part of overhead. Materials, including component parts, specially purchased or requisitioned for a particular job, order or process are direct materials. Likewise, materials passing from one operation or process to another; and primary packing materials such as cartons, cardboard, boxes, etc. are direct materials.
- (2) Direct wages (labour cost) are the wages which can be identified with and allocated to cost centres or cost units. They constitute the expenditure made to alter the condition, conformation or composition

of the finished product. Wages of foremen, inspectors, chargehands, whilst not directly expended as defined above, are for costing purposes, considered as direct wages.

- (3) Direct expenses (other than direct material or direct wages) that are attributable to product take the form of cost of special designs, drawings or layout, hire of special tools or equipments, etc. for the job.
- (4) Indirect cost or overhead expenses are all other expenses that cannot be easily traced to a particular product.

Variable/fixed Costs

We also classify costs as variable or fixed in relation to time and output. Fixed costs do not change in output level over a short period of time (i.e. office salaries, rent, travelling etc.). Variable costs, however, change with variations in output. It is also to be noted that total cost varies with the output level. The reverse is true in case of variable costs. The distinction between fixed and variable costs is very important in the context of marginal costing - a technique commonly used by management to determine the product mix and for assessing the effect of change in volume on profitability.

Total cost

The above classifications of costs lead to the following:

- (a) Direct material
  - (b) Direct labour
  - (c) Direct expenses
  - (d) Overhead
    - (i) Production
      - 1. departmental
      - 2. general
      - 3. services
    - (ii) Administration
    - (iii) selling and distribution
- } Prime cost
- } Production or factory cost
- } Total cost of sales

Statements of Total Cost

The total cost is made up of costs incurred in producing (converting the raw material into finished products by the help of labour, machine, etc.) and selling (distributing) the product. The total cost statement may be presented as follows:

Statement of total cost

1. Direct material cost	.....
2. Direct wages	.....
3. Direct expenses	.....
Prime cost	<u>.....</u> =====
4. Production or factory overhead	.....
Production or factory cost	<u>.....</u> =====
5. Administration overhead	.....
6. Selling and distribution overhead	.....
TOTAL COST	<u>.....</u> =====

The above presentation of cost information yields the advantage of analysing the various cost elements as a percentage of the total cost. It therefore assists management in exercising cost control methods.

Cost centre and cost unit

Prior to the installation of a costing system, it is important to know that costs are identifiable (ascertained) at a cost centre or as cost per unit. The cost unit is a unit of product, service or time. The selected unit is measurable and is one with which expenditure is most readily associated and is generally a unit clearly appropriate to the business - i.e. cost of one table, filing cabinet, cupboard, etc.

A cost centre is a location, person or item of equipment (or group of these) for which costs may be ascertained and used for the purpose of cost control. Examples of cost centres:

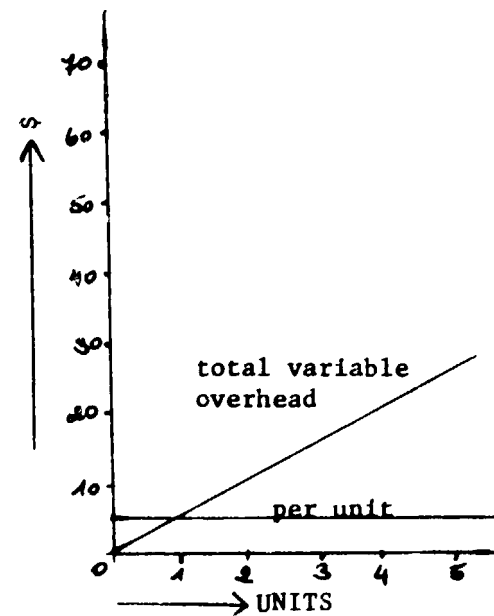
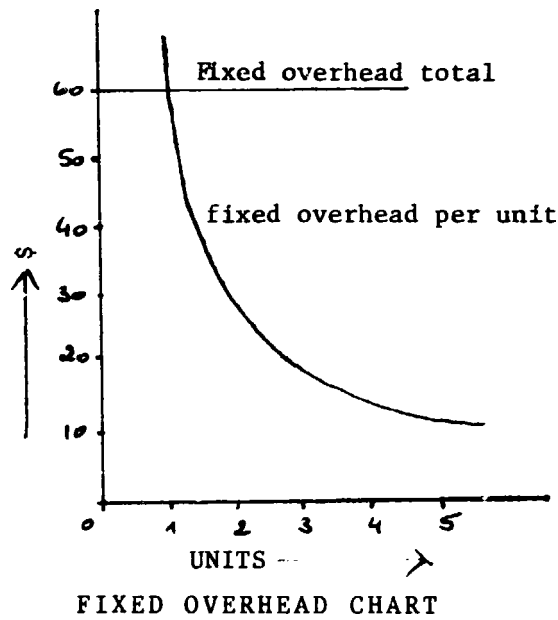
- Production cost centres - regular production of goods or services
- Operation cost centres - machine/group of machines or persons carrying out similar operations
- Process cost centres - machines/persons engaged or a specific process or a continuous sequence of operations

Cost centres and cost units are either allocated or apportioned with the indirect costs. Cost allocation refers to the allotment of the whole items of cost to cost centres or cost units. Cost apportionment is the allotment of proportions of items of cost to cost centres or units. Whereas a greater degree of precision may be observed in allocation, apportionment, however, requires an effort to obtain a reasonable degree of precision.

#### Absorption costing v/s marginal costing

The absorption costing method provides that the aggregate of the costs incurred during the particular period and irrespective of the level of output, are chargeable to the production - that is, all costs during the period are absorbed of the production. When costs (expenditure) are segregated into their particular functions and variability, a different costing method comes into the picture. Fixed costs vary in function with level of output and time. Whereas the total fixed costs are constant over a period fixed cost per unit of output varies. The reverse is true for variable costs - that is unit variable cost is the same, but the total variable costs will vary according to the level of output. See the figures below.

Production	Variable OH per unit	Total variable OH	Total fixed OH	Fixed OH per unit
Units	\$	\$	\$	\$
1	5	5	60	60
2	5	10	60	30
3	5	15	60	20
4	5	20	60	15
5	5	25	60	12



VARIABLE OVERHEAD CHART



Marginal costing method thus provides for the distinction in the nature (variability) of cost elements. Fixed costs are chargeable to the profit and loss account during the period. Only variable costs are charged to the production. This costing method is used to show the effect on profit of changes in volume or type of output.

The break even point is that volume of sales or production where there is no profit or no loss. From the above statement, the B.E.P. can be reached as follows:

$$S - M = F + P$$

where S = sales, M = marginal/variable cost, F = fixed cost and P = project

$$\text{At B.E.P., } P = 0$$

Multiplying by S and rearranging, we have

$$S_{\text{BEP}} = \frac{F + S}{S - M}$$

The B. E. P. can also be calculated using the P/V ratio (profit volume ratio), or the C/S ratio (contribution to sales ratio).

Under the marginal costing method, the statement of total cost is:

1. Direct material	-
2. Direct wages	-
3. Direct expenses	-
	<hr/>
Prime cost	<u>==</u>
4. Variable overhead	
Production	-
Administration	-
Selling + distribution	-
	<hr/>
Marginal cost	<u>==</u>
5. Fixed overhead	
Production	-
Administration	-
Selling + distribution	-
	<hr/>
TOTAL COST	<u>==</u>

The usefulness of the various costing methods is found in the purpose and objective of management. Cost accounting - costs classification, recording, presentation of cost statements, their analyses - is an important management tool, in so far as proper control of expenditure is possible with a view to minimizing product costs and maximizing profitability. The rule-of-thumb method of costing generally common in certain industries must give way to a more systematic and planned costing procedure.

#### Costing and Financial Management

Costing, as we have seen, can be advantageously used to better management practices. It plays, thus, a significant role in the profit planning of the enterprise and offers an effective means to plan and control the financial operations of the business.

In applying a costing system, management predetermines or estimates the financial commitments that the enterprise take in hand. For example, the budgeted materials cost, labour costs and the overhead expenses are predetermined against which the sales revenue are compared to strike a profit or loss during the ensuing period of operations. Thus, the liquidity problem is highlighted implying a sound cash management system. The lack of liquidity can be a serious handicap to the successful operation of the enterprise. Excess of liquidity, too, is not a sound practice to follow. A right balance is therefore imperative.

The first step towards this equilibrium is then the preparation of a cash flow. Cash inflows consist of, essentially sales revenues, new capital, loans and short-term borrowings, debts collections, income from other sources (or non-operating revenues), etc. Cash outflows, on the other hand, consist of all outlays made towards material purchases, wages payments, administration costs, etc. Accounting entries of a purely notional nature, such as

depreciation or notional rent, do not constitute cash outflows. The balance (excess) on cash inflows or outflows result in a positive or negative cash flow balance.

It therefore goes without saying that a proper costing system is more of an asset than a liability to management inasmuch as it assists management in alleviating much of the fear of a chronic liquidity problem that can become the real danger and jeopardize the very survival of the enterprise. Costing should be taken seriously if the entrepreneur/manager wishes to have a better control over his financial management and thus avoid unpleasant surprises - refusal of payments by the banker of his obligations, or reluctance of shareholders/investors to inject more funds in the operations and so on and so forth.

I hope this short exposure has helped you to grasp some of the fundamentals of costing in any business situation. If it has, then I have no doubts you will become the more promising and effective manager that you want to be.

