Marginal Costing

Marginal costing can helps the management in respect of following points :

1. Make or buy :

Make or buy decisions are best taken with full knowledge of the marginal cost of making rather than being a product buy. It is also helpful to know though marginal costing what contribution to fixed cost will result from a 'make decision'.

This decision will be taken with the help of marginal costing technique under the following situations;

a. When the company is working at full capacity :

The contribution per unit earned by different components, assemblies or products will be arrived and the contribution, Thus earned will be lost by not manufacturing the component, this contribution lost will be consider whether the manufacture a component or buy it from outside.

b. When the company is not working at full capacity :

The lost of contribution approach is irrelevant & should manufacture if it earns contribution over variable cost incurred on it. If variable cost in production is more than the purchase price from out side market then only the company will prefer to procure from outside suppliers.

Though make or buy analysis as outlined above, will ensure that all the capacity, capability, differential cost & opportunity cost factors will have been taken fully into consideration before the choice is made.

Thus, marginal costing can also helps to management in decision taking to various conditions & situations.

2. Price fixation :

This technique is most useful in fixation of price under the following situation:

a. Where supply is in excess to the existing demand.

b. Pricing of new product.

c. Make or buy decision.

d. Where the installed capacity is more than operating level of production.

e. Public utility services.

f. When cut - throat competition is prevailing in the market.

g. Pricing for export products.

h. Pricing decision relating to special orders.

The selling price fixations is also done under different circumstances :

a. fixing selling price.
b. reducing selling price.
c. selling at or below marginal cost.

Product pricing is a very important function of management. One of the purpose of cost, for fixation of selling price. Marginal cost of product represent the minimum price for that product and any sale below the marginal cost would until a loss of cash. There are cyclic periods in business i.e. boom depression, recession etc. in these situations price fixation is very important.

3. <u>Operate or shut down :</u> Marginal costing is also helpful in respect of closure of a department or discontinuing a product. Marginal costing technique shows the contribution of each product to fixed cost profit. If department or a product contributes the least amount, then the department can be closed or its production can be discontinued. It means the product which gives a higher amount of contribution may be chosen & the rest should be discontinued.

4<u>. Profit planning</u> : Profit planning is a plan for future operations or planning budget to attained the given objective or to attained the maximum profit, the volume of sale required to maintain a desired profit can be known from the formula –

$$\text{Desired Profit} = \frac{\text{fixed cost+desired profit}}{\text{p/v ratio}}$$

<u>5. Decision to accept a bulk order or foreign market order :</u>

Large scale purchases may demand products at less than the market price. A decision has to be taken now whether to accept the order to or reject it. By reducing the normal price, the volume of output & the sales can be increased. If the price is below the total cost, rejection of the order is suggested at in marginal costing. The offer may accepted, if the quoted price is above marginal cost, because of the reason that existing business contribution can recover the fixed costs & the margin of profits.

In such case, the contribution made by foreign market or bulk orders will be an addition to the profit but the price should not be less than the marginal cost. However, it should be affect the normal market price. Thus the marginal costing can also help to management in taking decision.

<u>Explain circumstances in which the technique of marginal costing will help the management in taking decisions :</u>

Marginal costing is a very useful technique of decision-making for the management. Any decision which involves consideration of variable cost & revenue requires application /use of marginal costing. Some of the important decision taken with the help of marginal costing techniques pointed are :

<u>1.Fixation of selling price :</u> The marginal costing technique help in determining the selling price in normal & special circumstances. In normal circumstances, every firm would like to sale its products at a price which covers the total cost & yields reasonable profit.

There can be situation when a firm may framed it beneficial to sale below total cost, at marginal cost or even below marginal cost. The determination of selling price in various circumstances have been explained below

1. If the raw materials are perishable or when the raw materials are perishable or when the raw material prices have fallen considerably, a firm may sell the finished product at marginal cost or at a price which is less than the marginal cost to avoid or to reduce total losses.
2. A firm may also do so to meet actual competition,
3. To introduce a new product,
4. To avoid shut-down costs,
5. To push up the sale of another highly profitability product,
6. To retain future market, or to capture foreign market.

Selling at marginal cost or below marginal cost can be for a limited period only, that too keeping in view the long-term interest.

a. Selling price in normal circumstances :

In normal circumstances, to determine the selling price of a product, a firm has first to ascertain the variable cost & desired p/v ratio. Thereafter, the selling price of the product can be determined by dividing the variable cost by . (100 % =p/v ratio)

b. Selling price for special market (export market) OR for a special customer :

If a company has some idle capacity, it may develop special markets to utilize the idle capacity by selling goods at a price which covers the marginal cost, but not the total cost. Thus, a firm has surplus capacity; it may offer a confessional price to a group of customers.

Since a price of additional goods will be higher than the marginal cost, the firm will be able to increase its total profits because there will not be additional fixed expenses for the extra output.

A firm may export goods at a price less than the total cost or it may sell to a special class of customers at a confessional price by doing this differential selling price. For doing this differential selling two precautions are necessary,

Firstly : price for normal sales should not be adversely affected by the confessional price.
Secondly : Extra sales should be limited only up to the idle capacity. Otherwise the fixed overheads will rise & reduce the profit instead of increasing it.

2 . Selling price during recession :

During a recession or a depression, a concern may decide to continue to product & sell at a price which is below the total cost, in such a case, the principle followed should be that as long as the price is above the marginal cost, production & sale would continue, it is obvious that selling in such a situation would give at least some margin to meet the fixed costs & hence the losses of the firm would be lower than had production been stopped altogether. However, in this case, one should not sell below the marginal cost because that will only increase the losses.

3. selling price at marginal cost or below marginal cost :

A firm may sell at marginal cost or even below marginal cost merely to keep the machines in running condition or to retain highly skilled work

4. Decision relating to the most profitable product mix :

Normally, a product which yields the maximum contribution is considered to be the most profitable, however, when a factor of production is short supply, generally called key factor or limiting factor. A product that yields the highest contribution per unit of key factor is considered the most profitable.

5.Decision relating to make or buy :

A decision whether a component should be produced in the factory or bought from outside is taken by comparing the marginal cost of production with the cost of buying the concerned part.

In the make or buy decision, only marginal (variable) cost of manufacturing or special additional cost, if any are relevant. Fixed cost which have already been incurred are sunk cost & irrelevant for the decision as they cannot be avoided (saved) if it is decided to buy the concerned part. However the decision will be influenced by the fact whether or not be capacity released by the non manufacture of the part can be used profitably somewhere else. If yes the contribution from the use of released capacity will also be considered as opportunity cost in taking a make or buy decision.

6. Shout down or continued or determination of out put level in periods of recession or depressions :

A firm can continued working till the sales revenue is sufficient to cover the variable cost plus a part of the fixed overheads i.e. excess of fixed cost over shut down cost. Shut down cost are those cost which a frame is bound to incur even if the plant is closed down. Any part of such fixed cost recovered will reduce the losses of the firm which it is otherwise bound to suffer.

The shut down point can be determined with the help of the following formula:

$$\text{Shut down point \{in sale value\}} = \frac{\text{fixed cost-shut down cost}}{\text{p/v ratio}}$$

Shut down point {in sales unit}= fixed cost - shut down cost

- **Marginal costing can also help in taking decisions with regard to :**

1. To diversify or not to diversify.
2. To sell in the home market or in the export market.
3. To drop out a product line.
4. To substitute one factor of production with another.
5. To rise or not to raise the production level.
6. To retain or replace a machine.
7. To expand or not to be expand. Etc.

Q. 3. What do you mean differential cost ?distinguish between differential costing and marginal costing, state their uses to management.

➢ Introduction :

Differential cost also known as incremental cost it is the difference in total cost that will arise from the selection of one alternative to the other.

Differential cost is defined as the difference in total cost between any two acceptable alternatives. The term differential cost covers both incremental and detrimental cost.

Incremental cost is decreases in the cost due to acceptance of alternative. The differential cost of the result of an alternative course of action. It is the most important concept of cost in decision making process.

The main characteristic of differential cost is as follows:

➢ Characteristics :

- It is cost revenue that differs from one course of action to another.
- The reverent data are cost and revenue and also investment factor if any are involved. Total incremental cost and not cost per unit and considered.
- Only reverent costs are considered.
- When selecting from a number of alternative the particular proposal for which the positive difference between the revenue and the cost is higher is preferred.
- Such an analysis in a simple technique for analyzing and presenting data for decision making and as such these do not from part of the formal accounting system.
- It is future cost revenue all variable cost cannot be treated as deferential cost it all depends upon the particular situation and the question at issue.

➢ Definition and term of D/C :

"Deferential cost is the change in the cost which occurs due to increase or decrease in output, change in sale volume, alternate method of production, make or buy decision, change in product mix."

"Deferential costs are defined as the difference in total costs between any two alternatives."

ex. : The total cost at 60% level of activity is RS.50,000/- & that at 80% capacity is RS.60,0000/- the differential cost is RS.10,000/-.

So long as incremental revenue exceeds the differential cost, it is profitable to increase the production. But when differential cost is equal to or more than incremental revenue, the volume of production should not be increased thereafter.

➢ Difference between differential costing & marginal costing :

Point.	Differential Costing	Marginal Costing
Useful technique.	It is a technique used in decisions of acceptability of alternative proposals by using the differential costs & revenue.	It is a technique of an ascertainment of marginal cost & of the effect on profit of changes in volume of output by differentiations fixed & variable cost.

Scope	It is wider in scope & can be applied to no. of alternative proposals.	It has limited scope in applications.
Incorporation in accounting records.	It is only uses the accounting information & it can be part of accounting system.	It can be incorporate into the accounting system.
Tools.	In differential cost analysis incremental revenues, incremental cost incremental profits are the analytical tools.	In this technique p/v ratio, Break-even analysis, Contribution analysis, C.V.P. analyses are the important tools used in decision making.
Using periods.	Differential costing cannot be ascertained precisely as the case of marginal costing sometimes differential costing is used in conjunction with relevant cost & opportunity costs.	Marginal costing can be easily ascertained by adding variable overheads to prime cost.
Use in fixed Costs.	It can be used for all short medium & long term decisions depending on the nature of problem.	It is used in short term & medium term decision making.
	It can be used both under absorption costing & marginal costing system. Differential cost may include certain fixed costs.	It is method of analysis using the marginal costs. Marginal cost does not consider the fixed cost at all.
Main yardsticks for the evaluation of managerial decision.	Differential cost analysis are compared with the differential revenues to determine whether alternate course of action should be followed or not.	In M/C, margin of contribution, contribution per unit of limiting factor & profit volume ratio are the main yardsticks for evaluating the managerial decision.
Basis of ascertainment.	Differential costs may be ascertained on the basis of both of absorption costing & marginal costing.	Marginal costs are calculate on the basis of contribution approach.

Management Uses :

1. Choosing alternative :

Differential costing is a technique used essentially in a process of choosing between competing alternatives each with its own combination of income & costs; problems of choice include capital expenditure decision, make or buy decision & product planning.

2. Use in investment decision :

The differential costing is the difference in total costs that will arise from the selection of one alternative to the other; these are added costs of change in the level of nature of capacity. It involves the estimation of the changes in process, product processes investments etc. If the incremental revenue is greater than the incremental costs the decision is favorable.

3. An aid to management :

These costing are an aid to management in taking many valuable decisions, since fixed cost is more or less uncontrollable & variable cost is generally controllable, the management is more concerned with marginal costs than with full costs. The data are presented in a manner revealing marginal cost & contribution that it facilities making policy decisions in many problems.

4. Reflects true position to the business :

Marginal costing reflects true position of the business where by fixed expenses are incurred as a matter of policy to earn long term profit whereas variable costs are day to day expenses, charging with volume of production.

5. Make or buy decision facilitated :

The net result of alternative courses of action can be made available by using of those costing technique particularly make or buy decision is facilitated by using this technique.

6. Simple to understand : Those techniques are helps to choosing alternative & the most important this costing technique is very simple to understand & valuable adjunct to budgeting & standard costing.

7. Greater control over costs is possible : This is possible because fixed costs are excluded from product costs & management can concentrate on marginal cost which is a constant ratio.

8. Use in decision making : Marginal costing & differential costing those techniques are very useful in decision making. ex. : Make or buy decision, product planning, most favorable alternative selection, sell or further process etc.

9. Greater accuracy : Closing stocks of finished goods & work in progress are valued at marginal costs. A part from simplicity in the valuation of stock, this will lead to greater accuracy in arriving at products.

Thus, both being the techniques of cost analysis they are useful to the management in formulating policies & making decision.

So long as fixed costs remain unchanged irrespective of change in volume of production, the marginal cost & differential cost are the same.

Short Notes :

1. Make or Buy Decision :

Make or buy decision are best taken with full knowledge of marginal or variable cost of making rather than buying a product but it is also helpful to know though marginal costing what contribution to fixed cost will result from a make decision.

If the product has a component part it is necessary to decide whether it is to be made in the factory to utilize the idle capacity or purchase it from outsider, if the price demanded by the outside suppliers is more than the marginal cost, the components should be manufacture in the factory & if it is less than marginal cost it should purchased from the outside supplier. Suppose the marginal cost of a unit is Rs.10 & the expenses or Rs. 5. The suppliers is prepared a supply it at Rs. 12 as the total cost of manufacture is Rs 15, but fixed expenses are required to be incurred even though the component is purchase from outsider & as such the total cost will be Rs. 17 the real cost of making the component is Rs. 12 i.e. its variable cost or marginal cost & as such it is not justified to purchase the component at Rs. 15. which price is more than its marginal cost.

However, in arriving at a final decision, other factors like regularity of supply, use of idle capacity for some other alternative use etc. must be considered.

2. Opportunity costs :

Opportunity cost is the value of a benefit sacrificed in favor of an alternative course of action. Opportunity cost represents income foregone by rejecting alternative. This cost can be defined as the revenue foregone by not making the best alternative use. The concept of opportunity cost is more important & useful to the management in decision making. **For ex.** If a firm receives an export order when its capacity is not fully utilized, capacity of the plant for export production would be nil or zero since the unutilized capacity of the plant has no alternative uses.

An opportunity cost is an imputed cost which represents the greatest benefit foregone or sacrifice made as a result of using particular resources or choosing an alternative course of action. **If e.g.** A choice lies between alternative A, B, & C then opportunity cost of choosing alternative A is more profitable of alternative B & C which has been foregone although opportunity cost are not collected within the accounting system as future commitments, they can be affected by decision & are therefore relevant.

Thus, opportunity costs represents the benefits forgone by not choosing the best alternative in favors of alternative accepted.

3. Incremental cost :

Incremental cost is also known as differential cost, is the difference in total cost that will arise from the selection of one alternative to the other.

Differential costs are defined as the difference in total costs between any two acceptable alternative. The term ‘differential cost’ covers both incremental & decremented costs, incremental costs is the increase in cost from one alternative to another. Detrimental cost is decrease in the cost due to acceptance of alternative.

The differential cost is the result of an alternative course of action; it is the most important concept of cost in decision- making process.

Naturally, the difference in cost is arrived at by subtracting cost of one alternative from the cost of another alternative.
ex. The total cost at 60% level of activity is RS. 50,000/- & that at 80% capacity RS. 60,000/- the differential cost is RS. 10,000/- .

Differential cost can be use both under absorption costing & marginal costing. It can be used for all short, medium & long term decision depending on the nature of problem. It is only uses the accounting information & it can be part of accounting system, incremental cost may include certain fixed costs. It tabulated & presented to the management to enable them to take certain decisions.

So long as incremental revenue exceeds the differential cost, it is profitable to increase the production but when differential cost is equal to or more than incremental revenue, the volume of production should not be in creased thereafter.

4. Operate or shut down :

Marginal costing is also helpful about taking decisions in the form of business activity the business is running various situation time to time taking decision is most important to management business is which time shut down or continue or is most important question of marginal costing.

Shut down or continue : temporary shut down :-Differential cost analysis helps to take decision whether to continue operation or temporary or permanently shut down the plant if operation are continued instead of being temporary shut down, the revenue from the sales of the products may not be sufficient to cover fixed costs. Some fixed costs may be reduced due to temporarily closing down of the plant, but the others will continue.

The decision would depend upon a comparison of direct economic consequence of shutting down & continue business operations. If the fixed costs not recovered from sales effected exceeds the cost of shut down, it would be worthwhile to shut down temporary units the operations can be conducted at an economic advantage. It is in the interest of the company to continue the operations as long as differential costs or any amount above that can be obtained.

In case of decision to permanently closing down plant a comparison should be made between the revenue from continued operations & revenue from complete closing down & sale of plant if the latter amount is more than the first, the business should be closed down.

5. Retain or Replacement Decision:

Management is required many times to decided whether to retain the old equipment or to replace it be new one. Replacement of equipment or machinery, it a question of capital investment & as such it is a long- term decision requiring use of discounted cash flow technique.

However, here discussion is confined to short term problems. As such we have to decide how to deal with written down value of an old equipment. Replacement may involve the questions of additional fixed costs that will be required to be incurred.

While deciding about replacement of a capital equipment the management should taken into consideration the resultant saving in operating costs & the incremental investment in the new equipment if the saving is more than the cost of raising additional funds for the new equipment, the proposal for replacement may be accepted. Besides this the benefits that will be derived in the long run by replacing the old equipment may also be consideration.

The understand book value of old equipment is to be considered as irrelevant cost for this proposal. The past costs of the old equipment are sunk costs & they should not be allowed to affect adversely the future decisions & aim of the firm to maximum long term profits.

6. Export or local sale :

Sometimes the question crops up whether to accept order for goods from foreign market at a selling price less than that charged in the domestic market when a business is operating at lower than its normal capacity, such a special order can prove alternative .

However, the price offered by the foreign purchase should be higher than the variable cost of the product & any additional expenditure requires to be incurred for the purpose.

The sale in the foreign market at less price should not be affecting the domestic market. Fixed cost of the total product remains the same & they are recovered by sale in domestic market.

As such by accepting the order from foreign buyer the total profit will be increase.

7. Prevalent cost :

A relevant cost is a future cost which differs between alternatives it can also be defined at any cost which is affected by any decision at hand.

The main features of relevant cost are as follows__

1. It must be feature cost i.e. one which is expected to be incurred and not a historic {sunk} cost which has already been incurred.
2. It must be an incremental {additional} or avoidable cost.**e.g.** Fixed overheads which are allocated by head officer are not relevant, but incremental or avoidable fixed overheads are relevant.

   Cost which very according to the alternative choice are formed as relevant cost. It means a cost is relevant for decision being made. Only differential or incremental cash follows should from part of relevant cost it may be noted that both fixed and variable cost may be relevant cost.

   Thus, relevant cost are incremental cost irrespective of the classification as fixed or variable.

THE END