**COST AND MANAGEMENT ACCOUNTING**

* *Amount of expenditure actual or notional relating to cost object.*
	+ - * *Fixed Cost*
			* *Variable cost*

**COST FOR DECISION MAKING**

OPPORTUNITY COST- An opportunity cost is the benefit given up or sacrificed when one alternative is chosen over another. They are not recorded in the accounting system as they are not based on the past payment or commitments to pay in future

SUNK COST: A cost that has already been incurred. It is a past or committed cost which is gone for forever. It’s a historical cost.

DIFFRENTIAL COST: It is the difference in total cost between any two alternatives. It is the only difference in amount of two costs

SHUT DOWN COST: Cost which has to be incurred under all situations in the case of stopping manufacture of a product or closing down a department or a division.

CONTROLLABLE &NON CONTROLLABLE COST: A cost which can be influenced by the action of a specified member of an undertaking ( Controllable cost) A cost which cannot be influenced by the action of a specified member of an undertaking ( Non controllable)

MARGINAL COSTING

According to Institute of Cost &Management Accountants London Marginal Cost represents “the amount of any given volume of output by which aggregate costs are changed if the volume of output is increased by one unit”

For example:

* Cost of production of 1000 units =Rs.200,000
* Cost of production for 1001 units=Rs.200,150
* difference= Rs. 150 (Marginal Cost)

ASSUMPTIONS:

* Elements of Cost: Production, Administration and Selling Expenses are divided into fixed and variable cost
* Variable cost fluctuates directly in proportion to changes in volume of output.
* Selling price remains constant
* Fixed cost remains constant
* Volume of production Influences cost
* Volume cost are regarded as cost of the products.

Break Even Analysis/Cost Volume Profit Analysis

According to Herman C. Heiser “ The most important single factor in profit planning of Average business is the relationship between volume of business, cost & profit”

CVP Analysis

* Two aspects:
* Broad Aspect: Study of Relationship between CVP
* Narrow Aspect: Technique of determining level of operations where Total Revenue=Total Expense

**MAJOR CONCEPTS FOR BREAK EVEN ANALYSIS**

 **CONTRIBUTION:** Contribution is the excess of selling price over variable cost is the amount contributed towards fixed expenses and profit.

 Contribution= Sales-variable cost

 Example: Selling Price: Rs.20 per unit

* + - * + Variable Cost : Rs 15 per unit
				+ Contribution Rs. 5 per Unit

For Example:

Total units Sold : 8000 units

Total Contribution : 8000\*5= 40,000(in continuo)( not sufficient to meet Fixed Expenses)

Increase total output by 10,000 units, total contribution 50,000 ( No profit No Fixed Expenses : Rs 50,000

Any output beyond 10,000 Units will give profits (total output increased by 15000 units, total contribution 75,000)

 Contribution = sales – variable cost

 Contribution = fixed cost +/- profit (loss)

Contribution per unit= selling price – variable cost per unit

We can derive marginal costing equation:

Sales-variable cost= contribution

Sales- variable cost= fixed cost +/- profit

In case three factors known fourth factor can be known:

Example: sales: 2,40,000/-

 Profit : 50,000/-

 Direct material : 80,000/-

 Direct labor : 50,000/-

 Variable overheads : 20,000

 Variable cost: 1,50,000

Sales – Variable Cost = Fixed Cost +/- Profit

2,40,000-1,50,000 -50,000 = 40,000

Fixed Cost = 40,000

 **Profit/ Volume Ratio (contribution Ratio)**

P/V ratio = Contribution/ sales

 = sales- variable cost / sales

 = Fixed Cost +/- Profit (loss) / sales

 = Change in profit or contribution / change in sales

 This can be shown in the form of percentage by multiplying by100.

Example: selling price = 15/-

 Variable cost = 10/-

P/V ratio = 15-10/15 = 1/3\*100 = 33 1/3%

 It establishes relationship between contribution and sales:

High P/V ratio reflects high profit

Low P/V ration reflects low profit

Ratio can be increased by increasing contribution:

* Increasing selling price per unit
* Reducing variable cost per unit
* Switching the production to more profitable products.

**For example:**

Sales: 100,000/-

 Profit: 10,000/-

 Variable Cost =70%

Calculate PV ratio, Fixed Cost, Sales volume to earn profit of 40,000/-

70% \*100,000 = 70,000

* P/V Ratio= 100,000-70,000 / 100,000 \*100 = 30%
* Contribution = Fixed Cost +/- Profit (loss)

30,000 = Fixed Cost + 10,000

Fixed Cost = 20,000

* Sales volume required to earn given profit : FC + Profit / pv ratio

 20,000+40,000 /30% = 60,000 /30% = 200,000

**BREAK EVEN POINT**

It is defined as that point of sales volume at which total revenue is equal to total cost. (No profit No loss)

Sales revenue at B.E.P. = fixed cost + variable Cost

Algebraic form

1. Break even point in units = Fixed Cost / Contribution per unit
2. Break Even point in terms of money value =

Total sales= TFC = TVC

 S= F+ VC

S-VC =FC

Dividing by S-VC

S-VC / S-VC = FC / S-VC

1= FC / S-VC (multiplying by S)

S= (FC / S-VC )\*S

1. break Even point as percentage of estimated capacity:

Fixed Cost / total contribution

For Example: Output : 3000 units

 Selling price per unit : Rs. 30/-

 Variable cost per unit : Rs. 20/-

 Total fixed cost : Rs 20,000/-

 Calculate B.E.P. in units and Sales value

B.E.P. (units) 20,000/ 30-20 = 2000 units

 Sales = FC\*S / S-VC = 20,000\* 90,000 / 90,000-60,000 = 60,000

Margin Of Safety: Excess of actual sales over break even sales is known as Margin of safety.

MOS : Total sales – Sales at B.E.P.

Angle of Incidence

Angle between sales line and total cost line formed at B.E.P. where sales line and total cost line intersect each other. AOI indicates the profit earning capacity of business.

AOI and MOS indicate the soundness of business.

**MANGERIAL DECISION**

* **PRICING DECISION:**
	1. Under normal conditions prices are based on total cost of sales so as to cover both fixed and variable cost and to certain extent profit.
	2. Other circumstances like stiff competition, exploring new markets etc. Products are sold at price below total cost.
	3. During depression prices can be reduced to an extent which covers the variable cost and contribute something towards fixed cost.
	4. Accepting bulk order and exploring foreign markets is generally made to utilize the idle capacity. The order from the local merchants should not be accepted at a below normal price it affects the relationship of the concern with the other customers. In case of foreign markets goods may be sold at prices below normal price.
* Make or Buy decision: the clear distinction must be made between fixed cost and variable cost. The variable cost must be compared with the purchase price of the product available in the market. If variable cost is less than the purchase price it’s preferred to make the product and if the variable price is more than the purchase rice its preferred to buy the product.

 Example: Total cost of making the product is Rs8/- per unit

 Variable cost of the product is Rs.6/- per unit

 Fixed cost of the product is Rs2/- per unit

 If supplier from outside is ready to sell at Rs7/- on basis of total cost method preferable to buy but on the basis of Marginal costing method not preferred total cost would come out to be Rs 9/- (Rs2/- fixed cost)

* Key or Limiting Factor: Factor which puts limit on production and profits of business generally it is sales. Production can be limited due to shortage of material, labor, and plant capacity. If there are two or more product line and there is key factor the problem may arise as to which product should be produced more so as to utilize the key factor in best manner. Scarce resource should be utilized in those directions where contribution per unit of the limited resources is the maximum.

Example: If there is a limited material which is used on two products X and Y. 3 units used for X and 5units of Y. Contribution per unit is 12 for X and 15 for Y. X gives contribution (12/3) 4 per unit and Y gives contribution(15/5) 3 per unit. X makes more contribution per unit.

* Selection of suitable product or sales mix: Best product mix which yield maximum contribution should be retained and production should be increased. The effect of sales mix can also be seen by comparing the PV ratio and break even point.
* Effect of changes in sales price: Change in sales price effect the profitability of the concern. May be required to reduce the prices on account of competition, depression. Effect can be analyzed with contribution technology.

Example: Sales:60,000 per unit

 Variable Cost : 30,000 per unit

 Fixed Cost: 15,000

Calculate: a) pv ratio, BEP, MOS

 b) effect of 10% increase in sales

 c) 10% decrease in sales price.

a) PV Ratio: 50%

 BEP: Fixed Cost / PV Ratio = 30,000

MOS: present sales- Sales at BEP=30,000

 b) Sales= 60,000+10% = 66,000

 PV Ratio = 54.55%

 BEP = 27,500

 MOS = 38500

1. Sales= 60,000-10% = 54,000

PV Ratio: 44.4%

 BEP = 33,750

MOS = 20,250

* Alternative Methods of Production : Employing machine 1 or Machine 2, if to choose among them marginal costing technique can be applied highest contribution can be adopted keeping in view limiting factor.
* Determing the optimum level of activity. To determine this activity contribution at different levels of activity can be found.

**COST CONTROL**

**Achieving Excellence in Construction Procurement**

**Guidance**

Promoting excellence in design does not necessarily mean amore costly job if whole-life costs are taken into account. The Royal Academy of Engineering reports that the typical costs of owning an office building for 30 years are in the ratio of 1 (for construction costs): 5 (for maintenance costs): 200 (for costs of the operation being carried out in the building, including staff

costs). Consultancy fees account for 10-15% of the construction cost (that is, 0.1-0.15) when compared with 200 operational cost. The focus on whole-life cost should start from the business case by increasing the value in the operational aspect while keeping the maintenance as low as possible. In this way the initial construction cost can be recovered, since this initial cost is the smallest amount and optimizing the other two figures will have saved more than the construction costs. The 200 figure is expenditure by the client organization on operating the facility; it should also reflect the benefit of that facility to the department or the public at large. While a hospital may cost 200 times its construction cost over 20 years to provide a service to patients, a well designed hospital may cost considerably less and a poorly designed one considerably more. Time and effort spent on the design stage will save significant amounts of money downstream. A key part of any whole-life cost assessment must be to address the sustainability aspects of the facility. In some areas there are clear links between whole-life costs and sustainability, such as the direct costs of energy usage. Even if the integrated project team does not operate and maintain the facility, it should be designed for convenient, cost-effective and safe operation and maintenance.

**Avoiding Cost Overruns**

The main ways for the client to avoid cost overruns are to have:

· Objectives that are realistic and not changed during the course of the project· estimates for project approval that are realistic – that is, not unduly optimistic · a project brief that is complete, clear and consistent

· A design that meets planning and statutory requirements

· a design that is coordinated and takes account of build ability, maintainability, health and safety and sustainability

· Risk allocation that is unambiguous and clear to all parties involved · clear leadership and appropriate management controls

· Simple payment mechanisms that give incentive to all parties to achieve a common and agreed goal. If the client works with the integrated project team at the early stages, more accurate and robust estimates can be prepared, which can be benchmarked against other schemes and client costs to ensure that value for money is achieved.

**Who is Involved in Whole-life Costing and Cost**

**Management**

The investment decision maker is accountable for any decisions relating to the cost of a project or programme. Whole-life costings should provide the information necessary to make the best decisions in terms of procurement route The senior responsible owner is responsible for ensuring that budgetary estimates are based on whole-life costs and is assisted by the project sponsor and project manager, as appropriate, together with additional client advice as required, such as value managers and cost consultants. The integrated project team has an essential part to play in delivering value for money. The team

members responsible for design and construction should work together to identify the most cost-effective design solution over the life of the facility. The integrated project team should advise on how the design will affect cost during construction and the operational efficiency of the completed facility; they should also advise on build ability and health and safety aspects in consultation with the planning supervisor. Cost models are described in

the next section. The whole-life cost model for a specific project will be developed and subsequently updated by different parties according to the project stage reached and the form of procurement adopted. Integrated project team members work together on updating the model. At project

inception, the model might be developed in-house or by an independent client adviser. Tenders will be evaluated on the basis of whole-life costs, and hence at tender stage, the bidder will prepare the model. Where a framework contract is already in place, the framework supplier might be the most appropriate organization to develop the model. All parties in the supply chain, including material and component suppliers and specialist suppliers, need to have reliable data on the operational costs of their products, including running and maintenance costs.

 The main aims of the framework are:

1. · integrating the design and construction processes, so that the IPT can take responsibility for the cost and quality implications of their design, with input from those who will be responsible for operating and maintaining the facility
2. · involving the integrated project team early on so that they can advise on how the design will affect cost, health and safety during construction and in use, speed of construction and the operational efficiency of the completed facility · taking early account of the needs of the end-users of the facility in order to avoid costly design changes at a later stage
3. · using opportunities for off-site fabrication and standardization of building components to improve cost effectiveness and efficiency on site; integrated team working is essential for achieving the required precision in planning and design

4· making sustainability of the completed facility a priority,

taking full account of its whole-life costs

5. Materials wastage close to zero compared with industry best

practice of 10%

6 · labour productivity of 65-70% compared with best industry

rates of 54%

·7 a regime where continuous improvement can be

demonstrated.

**Sources of Information**

Cost estimating relies on several project components from the Initiation and Planning process groups. This process also relies on historical information and policies from the performing organization.

**Work Breakdown Structure**

Of course the WBS is included- it’s an input to five major planning processes: cost, estimating, cost budgeting, resource planning, risk management planning, and activity definition.

**Resource Planning**

The only output of resource planning serves as a key input to cost estimating. The project will have some requirement for resources- the skills of labor, the ability of materials, or the function of equipment must all be accounted for.

**Calculating Resource Rates**

The estimator has to know how much each resource costs. The cost should be in some unit of time or measure – such as cost per hour, cost per metric ton, cost per use. If the rates of the resources are not known, the rates on the estimates will result in a skewed estimate for the project. There are four categories of cost;

 **Direct costs:** These costs are attributed directly to the project work and cannot be shared among projects. (Airfare, hotels, and long distance phone charges, and so on)

· **Variable costs:** These costs vary depending on the conditions applied in the project and demand of materials. (Number of meeting participants, supply and

Demand of materials, and so on)

· **Fixed costs:** These costs remain constant throughout the project (the cost of a piece of rented equipment for the project, the cost of a consultant brought onto the project, and so on)

· **Indirect costs:** These costs are representative of more than one project (utilities for the performing organization, access to a training room, project management software license, and so on)

**Estimating Activity Duration**

 Estimates of the duration of the activities, which predict the length of the project, are needed for decisions on financing the project. The length of the activities will help the performing organization calculate what the total cost of the project will be, including the finance charges. The future values of the monies the project will earn may need to be measured against the present value to determine if the project is worth financing.

**Estimating Publications**

There are, for different industries, commercial estimating publications. These references can help the project estimator confirm and predict the accuracy of estimates. If a project manager elects to use one of these commercial databases, the estimate should include a pointer to this document for future

Reference and verification.

**Historical Information**

Historical information is proven information and can come from several places:

· **Project Files:** Past projects within the performing organization can be used as a reference to predict costs and time. Caution must be taken that the records referenced are accurate, somewhat current, and reflective of what was actually experienced in the historical project.

· **Commercial cost-estimating databases:** These databases provide estimates of what the project should cost based on the variables of the project, resources, and other conditions.

· **Team members:** team members may have specific experience with the project costs or estimates. Recollections may be useful, but are highly unreliable when compared to documented results.

Referencing the Chart of Accounts

This is a cooling system used by the performing organization’s accounting system to account for the project work. Estimates within the project must be mapped to the correct code of accounts so that the organization’s ledger reflects the actual work performed, the cost of the work performed, and any billing that was charged to the customer for the completed work.

**Acknowledging the Cost of Risks**

The impact of risks, for positive or negative effect, must be evaluated and considered in the cost estimates. For example, if a risk comes into play, the mitigation of the risk may require adding several activities to squelch the risk. The expense of the activity would add to the cost of the project.

**Cost Information Sensitivity**

 The results of project financial appraisal can be the prime factor in deciding whether or not to commit vast sums of money to launching a new project. Yet quantifying many parameters used in the appraisal can only be matters of judgment, and even the best estimates are often subject to risk. Sensitivity analysis is one way to gain more confidence in the reliability of an appraisal.

The process consists of repeating the discounted cash flow calculations with a changed value for one or more of the parameters to test the effect (sensitivity) on the predicted net present value. Considering a toll bridge project, the estimated cost of maintenance and repairs might be arrived at with some degree of confidence by obtaining an advance quotation for a service contract to carry out this work. The annual costs of managing the operation should be relatively simple to estimate, because the number of staff needed and the salaries to be paid can be assessed fairly well.

Two factors in the toll bridge project cannot be so reliably predicted, however:

1. Unforeseen problems during construction which, although not affecting the fixed price agreed, could delay the completion date, thus putting back the start of operations and cash inflows. A few examples of similar projects are

exceptionally bad weather, actions by environmental groups, discovery of archeological remains, disturbance of rare flora and fauna, stoppages through industrial action, unexpected geological conditions, and so forth.

2. The forecast for traffic flows and consequent toll revenues might prove to be very inaccurate when the bridge opens, possibly resulting in revenues well below the target levels. Each or both of these factors could be changed, either independently or in combination, perhaps in steps of \_+5 percent, in

Reiteration of the discounted cash flow schedule. The sensitivity of net present value to these changes will help to indicate the reliability of the financial appraisal.

Sensitivity analysis is particularly useful in considering the effects of risks arising through incorrect forecasting of parameter values during project financial appraisal. The process involves repeating the appraisal calculations several times for stepped variations in the values of one chosen parameter, to test the effect on the outcome. Suppose, for example, that the revenues (cash inflows) from a project in future years cannot be forecast reliably. After calculating the net present value of the project using the best estimates, the calculation can be repeated using a range of lower and higher cash inflows to test the sensitivity of net present value to variations in revenue.

**10 steps to effective cost management**
Get moving on this oft-overlooked discipline and your company will surely come out ahead

Ever had a sinking feeling in the pit of your stomach, right after a friend told you he paid $50 less than you did for the latest state-of-the-art titanium golf club? It's called buyer's remorse, and we've all experienced it at one time or another. Chances are, when you made the purchase, you really thought it was the best deal around. You did some homework first - called a couple of pro shops, visited the giant golf warehouse and checked some prices on the Net. Better luck next time, you think, convincing yourself that $50 isn't that big a deal.

But apply a similar scenario to cost saving in your company. Ask yourself what kind of profitability impact there would be if you could reduce the company's general operating or non-strategic costs by, say, 15% or more. Cost cutting might not seem all that glamorous at first, but let's think of it for a moment in terms of the new business you can generate in the process. If your company has a gross profit margin of 25%, you would have to generate an additional $400,000 in sales for every $100,000 you could eliminate from overhead costs. Now that's a big deal.

Cost management is often forgotten or overlooked, especially in good economic times. The probable reasons are numerous: the process can be difficult to manage; cost-reduction initiatives are not always positively received by staff; and tough-minded resolve is required. Moreover, in today's business world the buyer is generally at a disadvantage. The seller possesses vital market knowledge that the buyer does not have because of a lack of resources, time, expertise or a combination thereof. Consequently, most - if not all - organizations overspend significantly on business operating costs. Although businesses are aware of the problem and the impact it has on their financial performance, they often do not address it for the reasons just mentioned. Even businesses that are committed to eliminating excess costs and have embarked on cost-saving initiatives have probably not achieved optimal results. This is mainly because they lack critical knowledge of the marketplace and, quite often, their own buying patterns and needs.

Maybe you work for a large organization and you assume you must be getting the best deal. Unfortunately, markets for various products and services do not always perform rationally; i.e. large customers with greater purchasing power do not always enjoy lower costs. Case in point: I recently negotiated with a supplier to obtain a discount rate for a client that purchased $60,000 of goods per year. This discount was higher than the one received by a $10-million account from the same supplier. In fact, well-managed smaller organizations often outperform larger ones.

Whether your business is large, small or somewhere in between, you can still perform at your optimal level and achieve your company's cost-saving goals. Here are 10 steps to effective cost management.

**Don't settle for mediocrity**
Surprisingly, many organizations aren't concerned enough about eliminating overspending and reducing costs. If executives and staff are complacent about financial performance and cost control, there is little chance of implementing a cost-savings project. Caring is a prerequisite to effective cost management.

The recent economic boom will likely have had an adverse effect on your employees' concern for cost control. This may not visibly affect the organization in the short term, but what will happen at the next economic downturn? A prevailing culture/attitude of "Don't rock the boat" or "If it ain't broke, don't fix it" is a recipe for mediocrity and will at best result in status quo performance. Start caring about cost management before the situation becomes critical and hasty decisions have to be made.

**Be a crusader**
Once you have established a caring culture, you need to commit fully to reducing unnecessary costs. Don't be lulled into taking the path of least resistance and settling for the status quo. Be a crusader and demonstrate to employees that you care about saving money, even on the smallest items. Leading by example will highlight the importance of cost cutting and motivate others to take some initiative.

Open up your organization to scrutiny and examine every cost. Cost management is not a popularity contest so don't be afraid to ruffle some feathers - your stakeholders will applaud your efforts and your message will be taken seriously. You may find some staff members resisting your initiatives. This may be a sign of apathetic or incompetent employees. Don't tolerate any resistance - if you do, your message will be diluted. Case in point: We recently met with a purchasing director who declined to try our risk-free service, even though he said we could "probably save this company at least $200,000 a year." Sounds sad, but a lot of people just don't care. Be relentless and have the attitude that no cost is sacred.

**Keep the green light flashing**
Instil a sense of urgency and create a culture in which employees act immediately to reduce costs and maximize profitability. If you don't, employees will see your crusade as "the flavour of the month" and your project will quickly fall to the bottom of everyone's in-tray. Promote cost management as a top priority. Create the motivation to trim costs and people will act. Establish tight project deadlines and stick to them in order to follow through on your commitment to effective cost management.

If you are short on internal resources, consider the use of an external cost-reduction specialist - preferably under a no-financial-risk basis. This approach allows you to maintain focus on your core functions as well as reduce unnecessary costs.

**Always run a tight ship**
One of the best ways to prove that your "well-kept ship" is not as leak-proof as everyone is thinking or hoping is to obtain external benchmarking data. You may believe your costs are under control based on historical trends, but what are your competitors paying? Benchmarking data is a useful tool to overcome complacency and instil a sense of urgency.

Compare your cost-management performance to others in your industry and region, or on a national/international basis. Benchmarking will highlight areas that have the most potential for improvement and will help you to set priorities. Gather the data from outside agencies, consultants, or benchmarking services. Be careful to ensure that you understand the data as they apply to your situation - data are useless unless they are interpreted correctly. Use this information to negotiate from a position of strength with your suppliers.

**Be market-wise**
Now that you have benchmarks to work with, you need to understand the supplier market for the costs you are examining and any developments that you may be able to capitalize on. Establish a market intelligence gathering system and update that system at regular intervals. Find out if there are any new technologies or suppliers that can immediately reduce your costs and administrative time. Work with your suppliers and external experts to identify new cost-cutting strategies.

**Caveat emptor**
To have any chance of negotiating favourable arrangements with your suppliers, you must have knowledge of the prevailing market prices and practices. Generally, buyers are severely disadvantaged because the supplier has superior knowledge and, not surprisingly, chooses not to divulge it. Track down the prevailing market prices before commencing negotiations (don't rely on suppliers for this information).

**Don't take the bait**
Determine your product and service requirements. Is there a better way to procure the goods and services? Look at total costs, including item price, inventory holding and administration costs. Don't purchase premium services unless they are necessary; for example, 10 a.m. courier delivery if 5 p.m. is acceptable.

Buy what you need, not what suppliers would like to sell you. Suppliers will often use bait-and-switch tactics to move you on to their higher-margin items or will try their version of the fast-food pitch: "Would you like french fries with that?" Many suppliers make much more money from supplementary or "add-on" services, such as service or maintenance agreements. Be sure you understand what you're buying and whether you really need it.

**You know what they say about the squeaky wheel**
Every year, companies spend millions of dollars on purchased goods and services unnecessarily. Suppliers price their offerings according to what the market will bear - let them know you won't bear it anymore.

Rarely will a supplier volunteer a price reduction (even to its most valued customer) without some pressure from the customer or their competition. Let suppliers know you are reviewing your costs, which have to be reduced. Refuse to accept price increases and you will be surprised at the number of suppliers who back down. Noise without knowledge (see 4, 5 and 6) will get you only so far. Do the research before you approach suppliers so you can negotiate from a position of strength. During negotiations, present the value of your business to the supplier in the most favourable light possible. Also, don't fall for "freebie" relationship-building tactics. Are you willing to pay a premium price for the occasional lunch or hockey game?

Finally, don't accept the supplier's statement ("Our prices are higher because we provide superior quality and service") without doing some comparison shopping.

**Set sail without delay**
The eight previous steps are fruitless unless you can implement the profit-improving measures. Reconfirm your commitment and sense of urgency to actually achieving the cost savings and boosting the bottom line.

Be sure to involve key people and "get them on board" at the outset of the project. Also, get suppliers involved during implementation to ensure the process goes smoothly.

**Keep a watchful eye**
Potential savings are great but they don't mean anything unless they are realized. Monitor the situation after implementation to ensure staff members don't slip back into old habits, the supplier charges correct prices, and service matches the agreed specification. Also remember to review each cost category every year or two, depending on total expenditure and price volatility.

By following these 10 steps, you should be able to significantly reduce your buyer's remorse and be well on the way to a healthier bottom line.

**BUDGETING**

* A budget is financial or quantitative statement prepared and approved prior to a defined period of time, of the policy to be pursued during that period for the purpose of attaining a given objective.
* BUDGET
* BUDGETING
* BUDGETORY CONTROL

**REQUIREMENT OF BUDGETING SYSTEM**

* Clear lines of authority and responsibility
* Organizational goal should be clearly stated.
* It should be established on the highest possible level of motivation.
* Budget control system should provide degree of flexibility designed to change in relation to level of activity.

**Advantages**

* Budgetary control establishes a basis for internal audit.
* Scarce resources re optimally utilized
* Motivational impact to participants for budget making
* Areas of efficiency and inefficiency are indentified
* Areas of responsibility are clearly delineated.

**Problems in budgeting**

* Inaccurate record keeping
* Departmental conflicts
* Uncertainties

Matching responsibility with control

**ESSENTIAL OF BUDGETARY CONTROL**

* Organization of budgetary control
* Budget centers
* Budget officers
* Budget Manual
* Budget Committee
* Budget period
* Determination of Key Factor.

**TYPES OF BUDGET**

* sales budget
* production budget
* plant utilisation budget
* direct material budget
* direct labour budget
* manufacturing expenses budget
* administrative expenses budget
* selling & distribution expenses
* capital expenditure budget

**ZERO BASED BUDGETING**

* ZBB was first introduced by Peter A Pyhrr, a staff control manager at Texas Instruments Corporation in the USA .
* According to Peter A Pyhrr “an operating and budgeting process which requires each manager to justify his entire budget request in detail from scratch and shifts the burden of proof to each manager to justify why he should spend any money at all. This approach requires that all activities be identified in decision packages which will be evaluated by systematic analysis and ranked in order of importance

**Methodology and Steps**

* Defining the decision units within the firm:
* Defining the objectives of each DU
* Identifying activities in the form of DPs
* Ranking of alternatives DPs in the order of decreasing benefit to the organization using cost benefit analysis technique.
* Forwarding the ranked DPs to the next higher organizational units for review, merger with other comparable DPs and for re-ranking
* Finalization of budget proposal as well as preparation of budget for each DU have to be finally approved by top management

**APPLICATION**

There are two basic requirements for application of ZBB:

* There must be budgeting system within the organization
* Managers must develop quantitative measures for use in performance evaluation

**BENEFITS AND USES**

* ZBB fosters a culture of efficiency and cost effectiveness and for that matter inculcates consciousness among managers.
* ZBB allows for quick budget adjustments during these periods when revenue fluctuates widely.
* ZBB improves budgeting process by focusing on objectives
* ZBB will provide an objective basis to prune programmes that have outlived their utility and expand high impact programmes.
* ZBB ensures participation from all concerned and facilitates coordination in planning and control
* Responsibility accounting system can become more effective under ZBB.
* Allocation of resources is made according to the needs and benefit derived.

**LIMITATIONS AND PROBLEM**

* Top management personal involvements and commitment
* Creative energies of the managers involved in order to identify innovative DPs
* A wholly new mental attitude and management style throughout the organization
* Climate of trust and mutual fund confidence between top management and then operating management.
* A climate of delegation
* Adequate feedback to the managers about reasons for their DPs being accepted or rejected.

**STANDARD COSTING &VARIANCE ANALYSIS**

Standard cost is the pre determined cost which determines in advance what each product or service should cost under given circumstances

STEPS FOR STANDARD COSTING

* Determination of Standard cost
* Recording Actual Cost
* Comparison in standard and Actual cost
* Finding out variances
* Reporting of variances

SYSTEM OF STANDARD COSTING

* Determination of cost centre
* Type of Standard
* Organization of Standard Costing
* Setting of Standards

TYPES OF STANDARD

* Current Standard
	+ Ideal Standard
	+ Expected Standard
	+ Basic Standard
* Normal Standard

ANALYSIS OF VARIANCE

* Sales Variance
* Profit Variance
* Direct Material variance
* Direct Labor variance
* Sales Variance
* Sales Value variance= Actual value of sales- budgeted value of Sales
* Sales price variance = Actual Qty. ( Actual Price- Standard Price)
* Sales Volume Variance = Std. Price ( Actual Qty.of sales –std. Qty. of Sales)
* Profit Variance

Total sales margin Variance= actual profit- Budgeted Profit

* + Actual profit= Act. Qty sold x Act. Profit Per unit
	+ Budgeted Profit = Bud Qty. Sold x Bud profit per unit

2) Sales margin Variance due to selling price=

 Act. Qty.( Act. Price- Std. Price)

3) Sales Margin variance due to volume=

 std. profit per unit ( Act. Qty. of sales-Std. Qty. of Sales)

* Direct Material variance
* Material Cost Variance: Std. Material Cost- Actual mat. Cost
* Material price Variance: Act. Qty.( Std. price- Actual Price)
* Material usage variance: Std. price ( Std. Qty.- Act. Qty)

Labor Variance

* Labor cost variance: Std. lab. Cost- act. Labor cost
* Wage rate variance : Act. Time( Std. Rate- Act. Rate)
* Labor Time variance: Std. wage rate (Std. time- Act. time)
* Idle time Hrs: Idle hrs X std. Rate

**RESPONSIBILITY ACCOUNTING**

* Responsibility accounting is a system under which managers are given decision making authority and responsibility for each activity occurring within a specific area of the company.

Institute of Cost and Works Accountant of India defines responsibility accounting as a system of management accounting under which accountability is established according to the responsibility delegated to various levels of management and management information and reporting system instituted to give adequate feedback in terms of the delegated responsibility. Under this system division or units of an organization under a specified authority in a person are developed as responsibility centers and evaluated individually for their performance

BASIC PROCESS IN IMPLEMENTATION

* The organization is divided into various responsibility centers.
* The targets or budgets of each responsibility centre are set in consultation with the manager of responsibility centre, so that he may be able to give full information about this department.

 Managers are charged with items and responsibility over which they can exercise a significant degree of direct control

* Goals defined for each area of responsibility should be attainable with efficient and effective performance.
* The actual performance is communicated to the managers concerned.
* The performance reports for each centre should be prepared highlighting the variance and items requiring managements section

RESPONSIBILITY REPORTING

* Defining and grouping of responsibilities within an organization structure, determination and assignment of cost to appropriate level of activities and strong emphasis and controllability.

ADVANTAGES

* It introduces sound system of control
* Each and every individual is assigned some responsibility and they are accountable for their work
* It is effective tool of cost control and cost reduction applied with budgetary control and standard costing
* It is only control device but also facilitates decentralization of decision making
* It fosters a sense of cost consciousness among managers and their subordinates
* It measures the performance of individuals in an objective manner.
* It helps the management to make an effective delegation of authority and required responsibility as well.

**Cost of quality and TQM**

* Quality:
	+ - * Defined as the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.”
			* Includes: Form
				+ Fix
				+ Function
				+ Reliability
				+ Consistency

Classification of quality cost

* Cost of Conformance
* Cost of non conformance
* Cost of lost opportunity

COST OF CONFORMANCE

* Prevention Cost: Trying to prevent failure from happening. Cost incurred before the base activity on ensuring that the base activities will be dine right first.

Appraisal Cost: the cost incurred to determine conformance with quality standards

Cost of Non Conformance

* Cost of Internal Failure: cost of correcting Products or services which do not meet quality standards prior to delivery to the customers.
* Cost of External Failure: It occurs when product or service is offered to the customers and found defective.
* Cost of exceeding Requirements: Cost incurred for providing information which are unnecessary or unimportant for which no know requiremt has been established.

Cost of lost opportunity

* Lost revenue resulting from the loss of existing customer, the loss of potential customers and the lost business growth arising from the failure to deliver products and services at the required quality standards.

Optimization of Quality Cost

* Quality cost reduction is achieved in following two stages:
	+ When prevention costs are increased to pay for the right kind of system engineering work in quality control, a reduction will occur in rejection
	+ a reduction in defective output will have a positive effect on appraisal cost because defect reduction means a reduced need for routine inspection and test activity.

Analysis of Quality Cost

* Internal Failure cost/ Direct Labor
* Total Failure Cost/ Manufacturing Costs
* Total Quality Cost/ Net Sales

Total Quality Management

* According to Richard J. Schonberger” the total quality Management is the set of concepts and tools for getting all employees focused on continuous improvement, in the eyes of the customer”