

STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

Preface to the Notes

This notes has been prepared for the benefit and use of CA Final students. Other Professional Course students can also use the material for respective topics of their syllabus. Being notes, the topics have been condensed and are presented in a synopsis manner. Yet, they cover the complete issues involved in respective topics and give the reader good understanding of the subject. This has been prepared for the ease of students preparing for Examinations. The issues have been explained in simple language supported by examples as well. If students desire to have more in-depth knowledge on any topic(s) then they need to refer relevant Text Books.

This paper of the CA Final course had substantial change in the contents and syllabus as compared to the erstwhile Advanced Management Accounting. There is a marked shift from more of the earlier Figure Work to Theory and Figure work in current syllabus. The syllabus has included more of the practical aspects of Management Accounting and Performance Evaluation with Case Studies. To answer practical cases, a student needs to have:

- Thorough understanding of the Theory;
- Application of theoretical knowledge to Practical business scenarios for solutions: and
- Figure work analysis.

In this part, only theory has been considered.

I hope this notes will be of good use to students.

Readers are requested to mail suggestions and feed back to ram_pv@rocketmail.com for improving the contents.

Good wishes and Happy Reading
P V Ram

CHAPTER 4: Cost Management Techniques

Broad Contents of the Chapter are:

1. Cost Reduction Vs. Cost Control
2. Target Costing.
3. Life Cycle Costing.
4. Pareto Analysis
5. Environmental Management Accounting

Cost Reduction Vs. Cost Control

Cost Reduction is defined as the Permanent Reduction in the unit cost of the Product. Under this continuous efforts are made to the costs of Production, Selling, Distribution and Administration. This does not accept the Budget or Standard but Challenges them for further improvement. In case of Cost Control, it accepts the Budgets and / or Standards and treats them as Sacrosanct to be complied with. The differences may be tabulated as below:

Cost Control is defined as the regulation by Executive Action the costs of operating an undertaking. The executives are provided with some yardsticks like Budgets and / or Standards with which they need to ensure Actuals are in line with Budgets and / or Standards by taking timely corrective actions. This is possible only when the organisation has an effective Cost Accounting System and the costs are categorised as Controllable and Non Controllable.

#	Cost Reduction	Cost Control
1	Cost Reduction is the real and permanent reduction in unit cost of products	Cost Control involves comparison of actual with standards or budgets, to regulate the actual costs.
2	Realistic savings in cost.	Temporary savings in cost.
3	Product's Utility, Quality and Features are retained.	Quality Maintenance is not a guarantee.
4	Not concerned with maintenance of performance according to standards	Involves setting up a target, investigating variances and taking remedial measures to correct them.
5	Continuous process of critical examination includes analysis and challenge of standards.	Control is achieved through compliance with standards. Standards by themselves are not examined.
6	Fully dynamic approach.	Less dynamic than Cost Reduction.
7	Applicable to all areas of business. Does not depend upon standards, though target amounts may be set.	Limited applicability to those items of cost for which standards can be set.
8	Emphasis here is partly on present costs and largely on future costs.	Emphasis on present and past behaviour of costs.

9	The function of Cost Reduction is to find out substitute ways and new means like waste reduction, expense reduction and increased production	Cost Control does competitive analysis of actual results with established standards.
10	Cost reduction is a corrective measure.	Cost Control is a preventive measure.

Areas where cost reduction feasibility is to be checked are as under:

1. **Product Design:** For several products, most of the costs are freezed at the Design and Development stage. Design is the first step in the production of a product. So, any savings here will be throughout the manufacturing life of the product. Designing will reduce costs in the following manner:
 - Cheaper substitutes, Higher yield and Less quantity
 - Reduced time of operation and Increased productivity
 - Standardization and Simplicity, etc
2. **Organisation:** It is not possible to measure the extent of cost reduction that takes place from an improvement in organisation. Yet economies are bound to be there when Functions and Responsibilities are clearly identified, Channels of Communication are clearly established, encouragement to employees for cost reduction etc.
3. **Layout of Machinery:** Proper logical and systematic Layout of machinery can lead to minimum movement of materials which saves time apart from cost of movement of materials.
4. **Production Plan Program and Method:** Proper Production Plan will enable the effective usage of Men, Materials, Equipment and other resources by following EOQs', EBQs', avoid unnecessary inventory buildups, avoid wastages, minimising idle time, following JIT etc.

Tools and Techniques used for Cost Reduction are:

- Value analysis and Value Engineering
- Inventory Management like EOQ, EBQ, JIT
- Business Process Reengineering, Target Costing, Kaizen Costing etc.

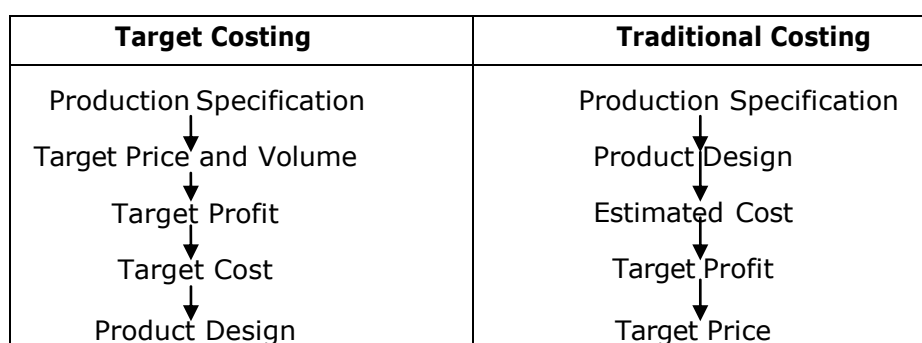
Target Costing:

Target Costing may be defined as a Structured approach to determine the Cost at which a Proposed Product with Specified Functionality and Quality is to be produced, to generate a Desired level of Profitability at its Anticipated Price. The scenario of Target Costing arises in a competitive environment. This is an important part of a management process to help the organisation survive in an increasingly competitive environment. This is not a product costing system but a management technique used to reduce the Life Cycle costs of a product.

Target Costing is the opposite of Cost Plus Contract. In case of Cost Plus Contract, a product is produced without any cost structure or limit. After

the product is produced, Margin is added to Cost to determine Price. In case of Target Costing, from the Price given, Margin is reduced and in the Balance amount Product is to be produced.

Target Costing has large impact on the profitability of an organisation depending on the commitment of the management for its use, constant involvement of Management Accountants in all stages of product's Life Cycle. Target Costing is one of the Best Pro Active Methods to improve Profitability. Target Costing and Traditional Costing may be compared as below:



Advantages of Target Costing:

- A. Proactive approach to Cost Management
- B. Ensures Top to Bottom commitment of management to gain Competitive Advantage.
- C. Ensures planning of operations before Production and Marketing
- D. Enhances Employee awareness and empowerment because they become more conscious about cost.
- E. Ensures to study the needs of customers and the price they are willing to pay to fulfill their needs. This enables production according to the needs of customer and according to the given price.
- F. Fosters partnership with suppliers.
- G. Ensures Non Value Added activities are minimised.
- H. Marketing time is reduced, since production is as per the needs and price of customer.

Features of Target Costing:

- A. Target costing is an integral part of the design and introduction of New Products.
- B. For any product a Target Sale Price is determined through various Sales Forecasting Techniques. Usually premium is avoided as it cannot be sustained due to competition. Target Sale Price is market driven and is related to competitive environment.
- C. Target Production and Sale Volumes are also determined by considering Price and Volume relationships.
- D. Cost reduction Targets are established. This is the difference between Current Cost and Target Cost.

- E. Once a product level Target Cost is set, it cannot be changed. Production has to take place within the Target Cost. A series of intense activities are taken up to achieve Target Cost into Reality.

Components of Target Costing System: Once Target Cost is fixed, it is further subdivided into various components like Materials, Labour, Overheads etc. to identify the opportunities for Cost reductions. At this stage Value Analysis and Value Engineering tools are extensively used.

Value Analysis is a planned, scientific approach to cost reduction which reviews the material composition of a product and production design of **Existing Products** so that modifications and improvements can be made which do not reduce the value of the product to the customer or to the user. **Value Engineering** is the application of Value Analysis to **New Products**. Value engineering relates closely to Target Costing as it is cost avoidance or cost reduction Before Production. Both adopt the same approach i.e. a complete audit of the product. Some of the issues that are dealt in Value Analysis / Value Engineering are:

- A. Can we eliminate some functions (steps) from the production process?
- B. Can we reduce some Durability or Reliability of the Product?
- C. Can we minimise the Design?
- D. Can we Design in a better way so that it will be comfortable to handle in manufacturing process.
- E. Can we substitute any parts?
- F. Can we combine any steps?
- G. Can we take supplier's assistance?
- H. Is there a better way of Handling / Production?

All the above Value Engineering steps are to be applied to identify the areas and opportunities for Cost Reduction. The initial Value Engineering may not uncover all the possible cost savings. So, **Kaizen Costing** is applied as long as a product is produced to refine the process and strip the extra costs.

Target Costing System is based on involving representatives of all the Value Chain such as Suppliers, Agents, Distributors and existing After-Sales Service personnel in the target costing system. The target costing system is based on the concept of long-term relations and mutual benefits between suppliers and all members of representatives of all the value chain. The use of Target Costing methodology represent a **massive change in mind-set** for the product design personnel of any company because they require the constant cooperation of many departments and rapid, voluminous communications between them. All these concepts are against traditional approach.

Problems with Target Costing: Target Costing System gives Substantial benefits in several cases. It has few problems also as

mentioned below.

- A. The Development process may take **Long Time** since Design people may intend to do several iterations before freezing on a particular one. If there happens to be no rapid progress towards a specified Target Cost in a short time, it is to be either abandoned or shelved for the time being to review it later.
- B. The mandatory cost cutting may result in finger pointing among various personnel of the Company. More so, when a particular section is forced to large cost cutting as compare to the others.
- C. Arriving at a consensus design is a difficult task. This will be more complicated when stubborn people exist.
- D. Effective implementation and use of Target Costing requires the development of Detailed Cost data. This can be costly and may not be viable when looked from cost benefit angle.
- E. Over emphasis on Target Costing may result in compromise of quality of product due to use of cheap resources.

Overcoming of the above problems requires a Strong Team Leader with Good interpersonal skills and Negotiation abilities. He should be aware of the process of design and must have strong control over design team.

Management Accountants Role in Target Costing: Management Accountant has a significant role in Designing, Implementing and maintaining a Target System. His roles include:

- A. Providing information for design members of the group a series of cost estimates based on the changing designs for various iterations. He has to make Best Guess estimates for various volumes of production.
- B. Making Capital Budget requests as per the requirement of Design Team.
- C. He should make the Design Team understand the nature of various costs, allocation and apportionment of them, cost benefit trade offs for various designs etc.
- D. He has to track the gap between Current Cost and Target Cost and monitor it.
- E. He has to continuously track the Target Cost and Actual Cost and after the design is completed and production starts. He should send reports to appropriate persons and create alarms for major deviations.
- F. He should have good analytical and presentation skills. He should be good team player and be proactive in giving the information to Team Members.

To carry out the above jobs, the Management Accountant should have indepth knowledge of the product, its components and features apart from internal organisation culture. Best person would be the one who has several years of experience with the Company.

Scenarios where Target Costing can be Effectively used: Target Costing can be most usefully used where the costs of the products are mostly locked at the Design & Development (D & D) Stage. This happens mostly in case of products which are manufactured. In service areas also this can be used. For instance, in case of Consulting Services, Event Management Services etc. most of the costs are locked at the time of Conception stage itself. Target Costing will be helpful in the case of:

- A. Assembly oriented industries (eg. Automobile, Electronics, Infrastructure etc.) in contrast to repetitive process industries (eg. Pharma, Tourism etc.).
- B. Industries who keep diversifying their product lines;
- C. Industries that use technology for automation including CAD, CAM etc.
- D. Companies which manufacture products with shorter life cycles where payback is less than 8 years.
- E. Companies implementing management methods like JIT, ABC, Value engineering etc.

Control points in Target Costing projects: Control points are to be put in all Target Costing projects.

Expenses of maintaining the Design & Development Team may exceed the benefits of Target Costing. Further, the products are to be launched in a short time to be competitive. Delay in launching may result in loss of competitive edge. This necessitates the installation of Control Points.

Milestones can be in the form of Time or savings in Cost.

Points of **Go / no Go Decision** may be fixed. If target costing is not reached, the project may be abandoned also.

Implementation of Target Costing: Target Costing project implementation requires Good Team Work, Interpersonal skills, Active support and participation of Top Management representative etc. The following steps need to be followed.

1. **Creation of Project Charter:** This Project Charter is developed from Corporate Mission Statement and the goals of the organisation. Written approval by the top management provides strong basis of support.
2. **Management Sponsor:** Next step is to have a strong management sponsor, preferably from Top Management. The sponsor should be one who strongly believes in the goals of Target Costing and supports the initiative in all respects.
3. **Obtain a Budget:** Target Costing program requires funds to ensure adequately staffed Design team(s) complete Target Costing tasks in a timely manner. Fund allocations should be made in the Corporate Budget itself

4. **Assign a Strong Team Manager:** Target Costing program involves many people with different backgrounds. The Team Manager should be one who is familiar with the Culture and Philosophy of the organisation, has good Designing Knowledge, has good Interpersonal and Negotiation skills and has good experience with the company. He must be able to devote his full time for Target Costing project.
5. **Enroll Full Time Participants:** Target Costing Team Member puts greatest effort only when he fully concentrates on this job alone. If he is called upon to do this as an additional job along with other works then there is every possibility that that Target Costing Program gets side tracked and possibly may lead to abandonment of the project as well. A Full Time Management Accountant is to be entrusted with the job of continuous preparation of Cost Benefit Analysis.
6. **Use of Project Management Tools:** Target Costing may be a Complex effort, More so, when it is done for high cost products with several features and components. To ensure, project stays on track, project management tools like Microsoft Project, CPM, PERT Techniques etc. may be used.

The main focus of all the above points is to ensure fullest possible support to Target Costing Program by all means – Men, Material and Management to ensure success of the Program.

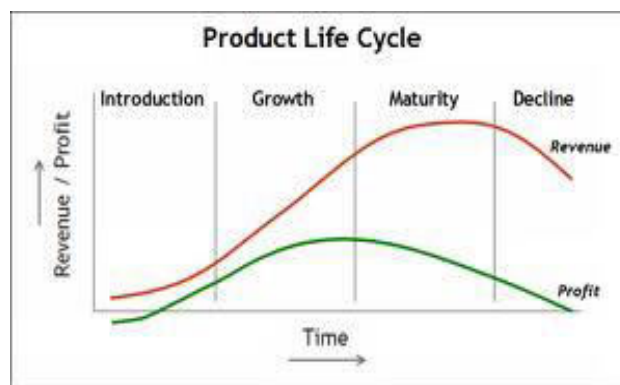
Life Cycle Costing:

Life cycle costing estimates, tracks and accumulates the costs over a product's entire life cycle from its inception to abandonment or from the initial R & D stage till the final customer servicing and support of the product. It aims at tracing of costs and revenues on product by product basis over several calendar periods throughout their life cycle. Costs are incurred along the product's life cycle starting from product's design, development, manufacture, marketing, servicing and final disposal. The objective is to accumulate all the costs over a product life cycle to determine whether the profits earned during the manufacturing phase will cover the costs incurred during the pre and post manufacturing stages of product life cycle.

Phases in the Life Cycle of a Product: The life cycle of a product consists of four phases viz.

1. Introduction;
2. Growth;
3. Maturity;
4. Saturation & Decline.

The various stages of revenues and profits of the product's life cycle can be depicted as below:



The salient features of the products during the different stages of its life cycle are summarised below:

SI. #	FEATURE	INTRODUCTION	GROWTH	MATURITY	DECLINE
Characteristics					
1	Sales	Low Sales	Rapidly increasing sales	Peak Sales	Declining sales
2	Costs	High Cost per customer	Avg. Cost per Customer	Low Cost per Customer	Low Cost per Customer
3	Profits	Low or Negative	More profit	Profits Start to Decline	Declining Profit or may be even -ve.
4	Customer	Innovators	Early Adopters	Early Majority + Late Majority	Laggards
5	Competitor	Few	More in Number	Stable Number, Beginning to Decline	Declining Numbers
Objectives					
1	Marketing	Create product Awareness and Trial	Maximise Mkt. Share	Maximise Profits & Defend Mkt. Share	Reduce Expenses & Milk Brands
Strategies					
1	Product	Offer Basic Product	Offer Product Extension, service, Warranty	Diversify Brands, Models	Phase out Weak Products
2	Price	Charge Cost + OR as per competitors	Price to Penetrate Mkt.	Price to Match Better Competition. They may also be reduced	Cut Price. Price may be maintained or reduced drastically for Clearance Sale.
3	Distribution	Build Selective Distribution	Build Intensive Distribution	Build More Intensive Distribution. Discounts may be offered.	Selective Phase out Unprofitable Unit
4	Advertising	Build Product Awareness among Early Adopters and Dealers	Build Awareness & Interest in Mass Mkt.	Stress on Brand difference & Benefits	Reduce to Retain Hard Core Loyals
5	Sales Promotion	Use Heavy Sales Promotion to Introduce Trial and attract Customers	Reduce Sales Promotion due to Increased Consumer Demand	More Sales Promotion to Encourage Brand Switching	Reduce to Minimum Level

Characteristics of Product Life Cycle:

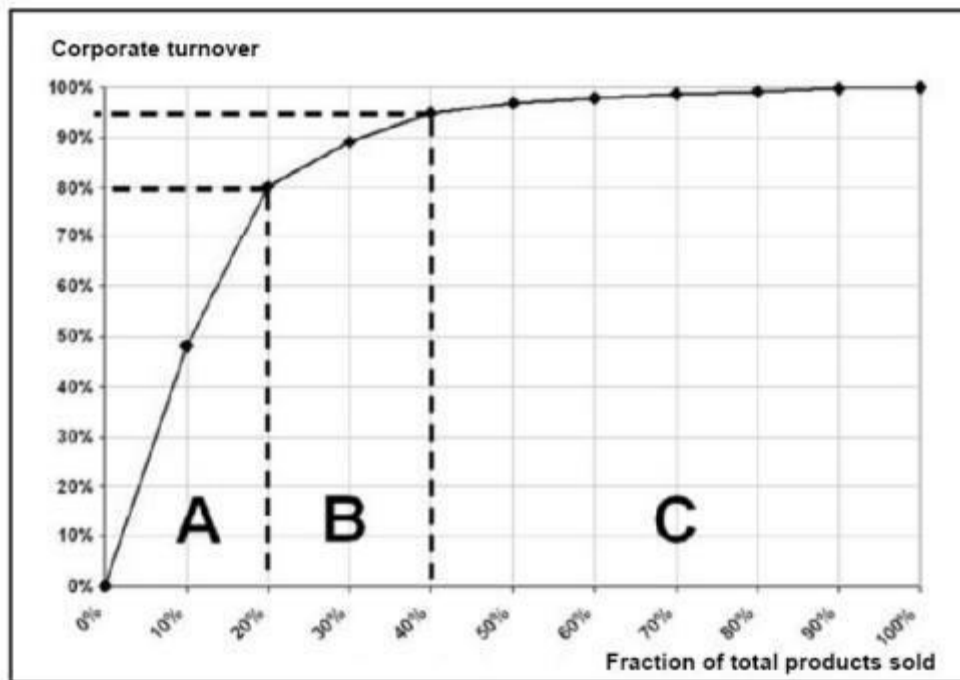
- Products of Finite lives and pass through the phases of Development, Introduction, Growth, Maturity, Decline and Deletion

- at varying speeds.
 - b. Product Cost, Revenue and Profit patterns follow predictable courses.
 - c. Profit per unit varies as products move through their life cycles.
 - d. S W O T of the products vary at each stage of their life. So, strategies also vary at each stage.
 - e. Finding new uses or new users for the product may extend the life of the product.
- Made

Benefits of Product Life Cycle Costing: Benefits may be summarised as follows:

- a. Product Life Cycle Costing helps in earlier actions to generate revenue or to lower costs that otherwise might not be considered.
- b. Better decisions can be made with more accurate and realistic assessment of revenues and costs at each stage.
- c. Life Cycle thinking may result in Long term rewarding in contrast to Short Term Profitability rewarding.
- d. Life Cycle Costing provides a framework for considering total incremental costs over the entire life span of a product that facilitates analysis of the pars of whole where cost effectiveness can be improved.
- e. Life Cycle approach provides Long Term picture of Product Line Profitability.
- f. This also used as a tool to enhance the control of manufacturing costs.
- g. Product Life Cycle Costing traces the Research, Design and Development costs through the entire Life Cycle of the Products.

Pareto Analysis: This is based on the principle of Management by Exception. Pareto Analysis is a rule that recommends focus on the most important aspects of the decision making in order to simplify the process of decision making. It is based on the 80 : 20 rule that was a phenomenon first observed by Vilfredo Pareto. He noticed that 80% of the wealth of Milan was owned by 20% of its citizens. This phenomenon, or an approximation of it say, (70 : 30 etc.) can be observed in many different business situations. It helps to clearly establish top priorities and to identify both profitable and unprofitable targets. Pareto Analysis applied to a multi product sales organisation may be depicted as below:



Uses of Pareto Analysis: Pareto analysis is useful to:

- Prioritise problems, goals, and objectives and identify root causes.
- Select and define key quality improvement programs
- Select key customer relations and service programs
- Select key employee relations and performance improvement programs.
- Maximize research and product development time.
- Verify operating procedures, manufacturing processes, Product or services, sales and distribution.
- Allocate physical, financial and human resources.

Application of Pareto Analysis: Analysing and focusing on the 80% value relating to 20% volume helps business in the following areas.

- Pricing of a product (in a multi-product company)
- Customer wise profitability analysis.
- ABC analysis of Stock control.
- Activity Based Costing (20% cost drivers are responsible for 80% of total cost)
- Quality Control.

Environmental Management Accounting (EMA)

EMA is the process of collection and analysis of the information relating to Environment Cost for internal Decision Making. EMA identifies and estimates the costs of environment related activities and seeks to control these activities. Though EMA information can be used in any decision making process, it is particularly useful for environmental decision making. Major areas for application of EMA are:

1. Product Pricing
2. Budgeting
3. Investment Appraisal
4. Calculation of Costs
5. Savings of Environmental Projects etc.

Environmental Costs: The United Nations Division for Sustainable Development (UNSD) describes environmental costs as consisting of:

- Costs incurred to protect Environment,
- Costs of wasted Material, Capital and Labour (i.e. inefficiencies in the process of production)

Environmental costs can also be categorised as:

- **Internal Costs** having direct impact on the income statement of a company and
- **External Costs** that are born by the society at large but not by the company that generates the cost.

Governments of many countries are becoming increasingly aware of these External Costs and are using taxes and regulations to convert them into Internal Costs of Companies. If the activities of the company lead to forest degradation, then the company is also required to have a tree replacement program.

Environment Costs may also be categorised as:

1. **Environment Prevention Costs** like:
 - A. Installation of Pollution Control Equipment;
 - B. Creation of Environment Policies;
 - C. Environmentally driven R & D;
 - D. Site and Feasibility studies,
 - E. Investment in Protective Equipment etc.
2. **Environment Appraisal Costs:** Costs of activities executed to determine whether Products and Processes of a company are in compliance with Environmental Standards, Policies, Laws like:
 - A. Improved systems to prevent Fines / Penalties
 - B. Regulatory Compliances
 - C. Performing Contamination Tests
 - D. Audit of Environmental Activities
3. **Environment Internal Failure Costs:** Costs incurred from activities that have been produced but not discharged into environment like:
 - A. Recycling of Scrap
 - B. Disposing Toxic Material
 - C. Back end costs such Decommissioning Costs, Site Restoration Costs
4. **Environment External Failure Costs:** Costs incurred on activities performed after discharging waste into environment. These costs have adverse impact on organisations reputation and natural resources. Examples are:
 - A. Cleaning up contaminated soil

B. Restoring land to its natural state.

Environmental Cost Report should be similar to Cost of Quality Report with each element of cost as a percentage of Sales Revenue or Operating Cost to enable comparison between different periods.

Identification of Environmental Costs: Identification of Environmental Costs is a difficult task. These are generally Hidden in the General Overheads of the Company. Costs include Material costs, Utilities cost, Waste Disposal Costs etc. Allocation of environmental costs to the Products or Processes which arise them is also important. This will enable the management to take well informed decisions.

Techniques for identification and allocation of Environmental Costs: The UNDSO (United Nations Division for Sustainable Development) has identified 4 Management Accounting Techniques to identify and allocate Environmental Costs.

Input – Output Analysis: Under this technique, mass of Inputs is equated with mass of Outputs on the principle of what comes in must be equal to what goes out. Any shortfall in outputs is attributed to Scraps, Wastes etc. By accounting for outputs in this way, both in terms of physical quantities and, at the end of the process, in monetary terms too, businesses are forced to focus on environmental costs.

Flow Cost Accounting: Flow Cost Accounting makes material flows transparent by using data such as Quantities, Rates and Amounts.

Life Cycle Costing: Lifecycle costing considers the costs and revenues of a product over its whole life rather than one accounting period. Therefore, the full environmental cost of producing a product will be taken into account. In order to reduce lifecycle costs an organization may adopt a TQM approach. Nowadays, Environmental Management Accounting is treated as part of TQM. The objectives being pursued include, Zero Complaints, Zero Spills, Zero Pollution, Zero Waste and Zero Accidents.

Activity Based Costing: ABC allocates internal costs to cost centers and cost drivers on the basis of the activities that give rise to the costs. In an environmental accounting context, it distinguishes between **environment-related costs**, which can be attributed to joint cost centers, and **environment- driven costs**, which tend to be hidden on general overheads. The environment-driven costs are removed from general overheads and traced to products or services. The cost drivers are determined based on environment impact that activities have and costs are charged accordingly. Cost drivers can be in the form of:

- A. Volume of Emissions or Waste;
- B. Toxicity of Emissions;
- C. Quantity of Waste treated;
- D. Volume of Emissions treated; etc.

This gives good attribution of environmental costs to individual products and should result in better control of costs.

Control of Environmental Costs: Once the Environmental Costs are identified, next task is to control them. Different Environmental Costs may be monitored as below:

- A. **Waste:** Mass Balance approach (i.e. Input – Output Relationship) can be used and potential cost savings can be identified. Waste has environment costs as well in the form of land lost for storage and treatment and disposal of waste, costs of unused raw material, Cost of Landfill, Penalties for non compliance etc.
- B. **Water:** Water charges are incurred twice. Once for buying water and again for disposing used water. Used water may not be disposed as it is. It may have to treated properly and disposed. So, consumption of water is to be carefully monitored. Recycling of used water through Ultra Filtration pr RO process may also be considered. Rain water harvesting will also be very useful.
- C. **Energy:** Energy costs can be reduced significantly at very little cost. Environmental management accounts may help to identify inefficiencies and wasteful practices and therefore, opportunities for cost savings. Energy saving products and devices may be used. Energy saving initiatives like the following are to be taken
 - a. Periodic Energy Audits;
 - b. Replacement of Conventional lights with LED // induction lights;
 - c. Power factor improvement by installing capacitor banks;
 - d. Installing 5 Star rated equipments;
 - e. Usage of Solar Power;
 - f. Capacity improvement for batteries etc
- D. **Transport & Travel:** EMA techniques may be used to identify savings in terms of travel and transport of goods and materials. For instance, more fuel-efficient vehicles may be used. These being Non Value added activities, these need to be minimised.
- E. **Consumables & Raw Material:** These are directly attributable costs which need to be monitored to see avenues for savings. For instance, cartridges can be refilled instead of repurchase. This will have saving in main cost as well as disposal of used cartridges.

Reasons for Controlling Environmental Costs: There are 3 main reasons why environment costs are to be controlled by an organisation.

- a. "Carbon Foot Print" measures the total Green House Gas

Emissions caused directly or indirectly by an individual, organisation, event or product. Green House Gases in Earth's atmosphere are Water Vapour, Carbon dioxide, Methane, Nitrous Oxide and Ozone. Many companies have initiated CSR committees portraying them as environmentally responsible to make themselves popular.

- b. Environmental costs are becoming huge going upto or more than 20% of operating cost, thus attracting more attention for their management.
- c. Regulatory framework is fast changing and imposing several restrictions on operations coupled with Huge Penalties and making liable for Criminal Prosecutions for Violations. This requires close attention and monitoring.
- d. Management of Environmental Costs is not an easy process. Defining EMA itself is difficult and so the process of separation, identification and Controlling of the costs related to it.

Role of EMA in Product Process Decision Making: Ascertainment of correct costs of a product or process is essential to take right decisions. EMA converts many of the costs which were hitherto treated as Overheads would now be treated as Direct costs thereby changing the cost structure of the product requiring fresh look at the decisions on the Products or Processes. Improved costing by EMA may include:

- a. Different pricing of products due to recalculation of costs;
- b. Recalculation of Profit Margins;
- c. Phasing out of certain products, if need be;
- d. Redesigning of product or process;
- e. Monitoring and improvement of Environmental Performance.

Main difficulty associated EMA is the identification and allocation of environmental costs. Due to this Management Accountant Techniques may distort and misrepresent environmental issues leading to wrong decisions by managers and thereby for the business. Environmental issues need to be managed before they can be reported and Management Accounting Systems are to be suitably modified for capturing and reporting of costs in the reports. Stringent Penal actions like more taxes, loss in value of land, erosion of Brand Value, inability to secure finance, loss of Goodwill, loss of insurance cover, facing of Criminal Proceedings etc. indicate the importance that need to be attached to EMA.