

# 4. COST ACCOUNTING

This chapter covers:

- Concepts of Cost Accounting
- Advantages of Cost Accounting
- Cost versus Financial Accounting
- Classification and Elements of Cost
- Preparation of Cost Sheet
- Cost Control and Cost Reduction

## Definition of Cost Accounting

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The definition of cost accounting goes as:

*Cost accounting is the application of accounting and costing principles, methods, and techniques in the ascertainment of costs and the analysis of saving or excess cost incurred as compared with previous experience or with standards.*

...Wheldon.

## Concepts of Cost Accounting

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Following are the main concepts of cost accounting:

### Cost

There is a cost involved to purchase or produce anything. Costs may be different for the same product, depending upon the stages of completion. The cost changes according to the stage a product is in, for example, raw material, work in progress, finished goods, etc. The cost of a product cannot be perfect and it may vary for the same product depending upon different constraints and situations of production and market.

### Expenses

Some costs are actual, such as raw material cost, freight cost, labor cost, etc. Some expenses are attributable to cost. To earn revenue, some expenses are incurred like rent, salary, insurance, selling & distribution cost, etc. Some expenses are variable, some are semi-variable, and some of fixed nature.

## Loss

Expenses are incurred to obtain something and losses are incurred without any compensation. They add to the cost of product or services without any value addition to it.

## Cost Center

Cost center refers to a particular area of activity and there may be multiple cost centers in an organization. Every cost center adds some cost to the product and every cost center is responsible for all its activity and cost. A cost center may also be called a department or a sub-department. There are three types of cost centers:

- **Personal and Impersonal Cost Centers** A group of persons in an organization responsible as a whole for a group activity is called a personal cost center. In case of impersonal call center, the activities are done with the help of plant and machinery.
- **Operation and Process Cost Centers** The same kind of activity is done in an operation department. In a process cost center, as the name suggests, different kinds of processes are involved.
- **Product and Service Cost Centers** A department where all activities refer to product is called a product department. When the centers render their services to a product department for its smooth functioning, they are called service cost centers.

## Profit Center

Profit centers are inclusive of cost centers as well as revenue activities. Profit centers set targets for cost centers and delegates responsibilities to cost centers. Profit centers adopt policies to achieve such targets. Profit centers play a vital role in an organization.

## Cost Drivers

Cost of any product depends upon cost drivers. There may be different types of cost drivers such as number of units or types of products required to produce. If there is any change in cost driver, the cost of product changes automatically.

## Conversion Cost

The cost required to convert raw material into product is called as conversion cost. It includes labor, direct expenses, and overhead.

## Carrying Costs

Carrying cost represents the cost to maintain inventory, lock up cost of inventory, store rent, and store operation expenses.

### **Out of Stock Cost**

Sometimes loss is incurred due to shortage of stock such as loss in sale, loss of goodwill of a business or idle machine. It is called out of stock cost.

### **Contribution Margin**

Contribution margin is the difference between sale price and variable cost.

### **Ordering Costs**

Ordering costs represent the cost to place an order, up to to stage until the material is included as inventory.

### **Development Cost**

To develop new product, improve existing product, and improved method in producing a product called development cost.

### **Policy Cost**

The cost incurred to implement a new policy in addition to regular policy is called policy cost.

### **Idle Facilities Cost and Idle Capacity Cost**

If available facilities remain idle and some loss incurred due to it, it is called idle facilities cost. If capacity is unused due to repair, shut down or any other reason, it is called capacity cost.

### **Expired Cost**

When the cost is fully consumed and no future monetary value could be measured, it is called expired cost. Expired cost relates to current cost. Suppose the expenses incurred in an accounting period do not have any future value, then it is called an expired cost.

### **Incremental Revenue**

Incremental revenue implies the difference in revenues between two alternatives. While assessing the profitability of a proposed alternative, incremental revenues are compared with incremental costs.

### **Added Value**

Added value means value addition to any product. Value addition of the product may be due to some process on product or to make the product available or there may be other reasons; but it also includes the profit share on it.

### **Urgent Cost**

There are some expenses that are to be incurred on an immediate basis. Delaying such expenses may result in loss to business. These expenses are called urgent cost. Urgent costs are not be postponed.

## **Postponable Cost**

Without avoiding any expenses, if we are able to defer some expenses to future, then it is called a postponable cost.

## **Pre-production Cost**

The cost incurred before commencing formal production or at the time of formation of new establishment or project is called pre-production cost. Some of these costs are of capital nature and some of these are called deferred revenue expenditure.

## **Research Cost**

Research costs are incurred to discover a new product or to improve an existing product, method, or process.

## **Training Cost**

The costs incurred on teaching, training, apprentice of staff or worker inside or outside the business premise to improve their skills is called training cost.

## **Advantages of Cost Accounting**

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The advantages of cost accounting are:

- Disclosure of profitable and unprofitable activities
- Guidance for future production policies
- Periodical determination of profit or losses
- To find out exact cause in decrease or increase in profit
- Control over material and supplies
- Relative efficiency of different workers
- Reliable comparison
- Helpful to government
- Helpful to the consumers
- Classification and sub division of cost
- To find out adequate selling price
- Proper investment in inventories
- Correct valuation of Inventories
- Decision on manufacturing or purchasing from outside
- Reliable check on accounting
- Budgeting

Let us go through them one by one.

### **Disclosure of profitable and unprofitable activities**

Since cost accounting minutely calculates the cost, selling price and profitability of product, segregation of profitable or unprofitable items or activities becomes easy.

### **Guidance for future production policies**

On the basis of data provided by costing department about the cost of various processes and activities as well as profit on it, it helps to plan the future.

### **Periodical determination of profit and losses**

Cost accounting helps us to determine the periodical profit and loss of a product.

### **To find out exact cause of decrease or increase in profit**

With the help of cost accounting, any organization can determine the exact cause of decrease or increase in profit that may be due to higher cost of product, lower selling price or may be due to unproductive activity or unused capacity.

### **Control over material and supplies**

Cost accounting teaches us to account for the cost of material and supplies according to department, process, units of production, or services that provide us a control over material and supplies.

### **Relative efficiency of different workers**

With the help of cost accounting, we may introduce suitable plan for wages, incentives, and rewards for workers and employees of an organization.

### **Reliable comparison**

Cost accounting provides us reliable comparison of products and services within and outside an organization with the products and services available in the market. It also helps to achieve the lowest cost level of product with highest efficiency level of operations.

### **Helpful to government**

It helps the government in planning and policy making about import, export, industry and taxation. It is helpful in assessment of excise, service tax and income tax, etc. It provides readymade data to government in price fixing, price control, tariff protection, etc.

### **Helpful to consumers**

Reduction of price due to reduction in cost passes to customer ultimately. Cost accounting builds confidence in customers about fairness of price.

## **Classification and subdivision of cost**

Cost accounting helps to classify the cost according to department, process, product, activity, and service against financial accounting which give just consolidate net profit or loss figure of any organization without any classification or sub-division of cost.

## **To find out adequate selling price**

In tough marketing conditions or in slump period, the costing helps to determine selling price of the product at the optimum level, neither too high nor too low.

## **Proper investment in inventory**

Shifting of dead stock items or slow moving items into fast moving items may help company to invest in more proper and profitable inventory. It also helps us to maintain inventory at the most optimum level in terms of investments as well as variety of the stock.

## **Correct valuation of inventory**

Cost accounting is an accurate and adequate valuation technique that helps an organization in valuation of inventory in more reliable and exact way. On the other hand, valuation of inventory merely depends on physical stock taking and valuation thereof, which is not a proper and scientific method to follow.

## **Decision on manufacturing or purchasing from outside**

Costing data helps management to decide whether in-house production of any product will be profitable, or it is feasible to purchase the product from outside. In turn, it is helpful for management to avoid any heavy loss due to wrong decision.

## **Reliable check on accounting**

Cost accounting is more reliable and accurate system of accounting. It is helpful to check results of financial accounting with the help of periodic reconciliation of cost accounts with financial accounts.

## **Budgeting**

In cost accounting, various budgets are prepared and these budgets are very important tools of costing. Budgets show the cost, revenue, profit, production capacity, and efficiency of plant and machinery, as well as the efficiency of workers. Since the budget is planned in scientific and systemic way, it helps to keep a positive check over misdirecting the activities of an organization.

## **Cost Accounting versus Financial Accounting**

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Both cost accounting and financial accounting help the management formulate and control organization policies. Financial management gives an overall picture of profit or loss and costing provides detailed product-wise analysis.

No doubt, the purpose of both is same; but still there is a lot of difference in financial accounting and cost accounting. For example, if a company is dealing in 10 types of products, financial accounting provides information of all the products in totality under different categories of expense heads such as cost of material, cost of labor, freight charges, direct expenses, and indirect expenses. In contrast, cost accounting gives details of each overhead product-wise, such as much material, labor, direct and indirect expenses are consumed in each unit. With the help of costing, we get product-wise cost, selling price, and profitability.

The following table broadly covers the most important differences between financial accounting and cost accounting.

<b>Point of Differences</b>	<b>Financial Accounting</b>	<b>Cost Accounting</b>
Meaning	Recoding of transactions is part of financial accounting. We make financial statements through these transactions. With the help of financial statements, we analyze the profitability and financial position of a company.	Cost accounting is used to calculate cost of the product and also helpful in controlling cost. In cost accounting, we study about variable costs, fixed costs, semi-fixed costs, overheads and capital cost.
Purpose	Purpose of the financial statement is to show correct financial position of the organization.	To calculate cost of each unit of product on the basis of which we can take accurate decisions.
Recording	Estimation in recording of financial transactions is not used. It is based on actual transactions only.	In cost accounting, we book actual transactions and compare it with the estimation. Hence costing is based on the estimation of cost as well as on the recording of actual transactions.
Controlling	Correctness of transaction is important without taking care of cost control.	Cost accounting done with the purpose of control over cost with the help of costing tools like standard costing and budgetary control.
Period	Period of reporting of financial accounting is at the end of financial year.	Reporting under cost accounting is done as per the

		requirement of management or as-and-when-required basis.
Reporting	In financial accounting, costs are recorded broadly.	In cost accounting, minute reporting of cost is done per-unit wise.
Fixation of Selling Price	Fixation of selling price is not an objective of financial accounting.	Cost accounting provides sufficient information, which is helpful in determining selling price.
Relative Efficiency	Relative efficiency of workers, plant, and machinery cannot be determined under it.	Valuable information about efficiency is provided by cost accountant.
Valuation of Inventory	Valuation basis is 'cost or market price whichever is less'	Cost accounting always considers the cost price of inventories.
Process	Journal entries, ledger accounts, trial balance, and financial statements	Cost of sale of product(s), addition of margin and determination of selling price of the product

## Classification of Cost

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Costs can be classified based on the following attributes:

- By nature
- By degree of traceability of the product
- By controllability
- By relationship with accounting period
- By association with the product
- By functions
- By change in activity or volume
- By time
- According to planning and control
- For managerial decision



## By Nature

In this type, material, labor and overheads are three costs, which can be further sub-divided into raw materials, consumables, packing materials, and spare parts etc.

## By Degree of Traceability of the Product

Direct and indirect expenses are main types of costs come under it. Direct expenses may directly attributable to a particular product. Leather in shoe manufacturing is a direct expenses and salaries, rent of building etc. come under indirect expenses.

## By Controllability

In this classification, two types of costs fall:

- **Controllable:** These are controlled by management like material labor and direct expenses.
- **Uncontrollable:** They are not influenced by management or any group of people. They include rent of a building, salaries, and other indirect expenses.

## By Relationship with Accounting Period

Classifications are measured by the period of use and benefit. The capital expenditure and revenue expenditure are classified under it. Revenue expenses relate to current accounting period. Capital expenditures are the benefits beyond accounting period. Fixed assets come under category of capital expenditure and maintenance of assets comes under revenue expenditure category.

## By Association with the Product

There are two categories under this classification:

- **Product cost** Product cost is identifiable in any product. It includes direct material, direct labor and direct overheads. Up to sale, these products are shown and valued as inventory and they form a part of balance sheet. Any profitability is reflected only when these products are sold. The Costs of these products are transferred to costs of goods sold account.
- **Time/Period base cost** Selling expenditure and Administrative expenditure, both are time or period based expenditures. For example, rent of a building, salaries to employees are related to period only. Profitability and costs are depends on both, product cost and time/period cost.

## By Functions

Under this category, the cost is divided by its function as follows:

- **Production Cost** It represents the total manufacturing or production cost.

- **Commercial cost** It includes operational expenses of the business and may be sub-divided into administration cost, and selling and distribution cost.

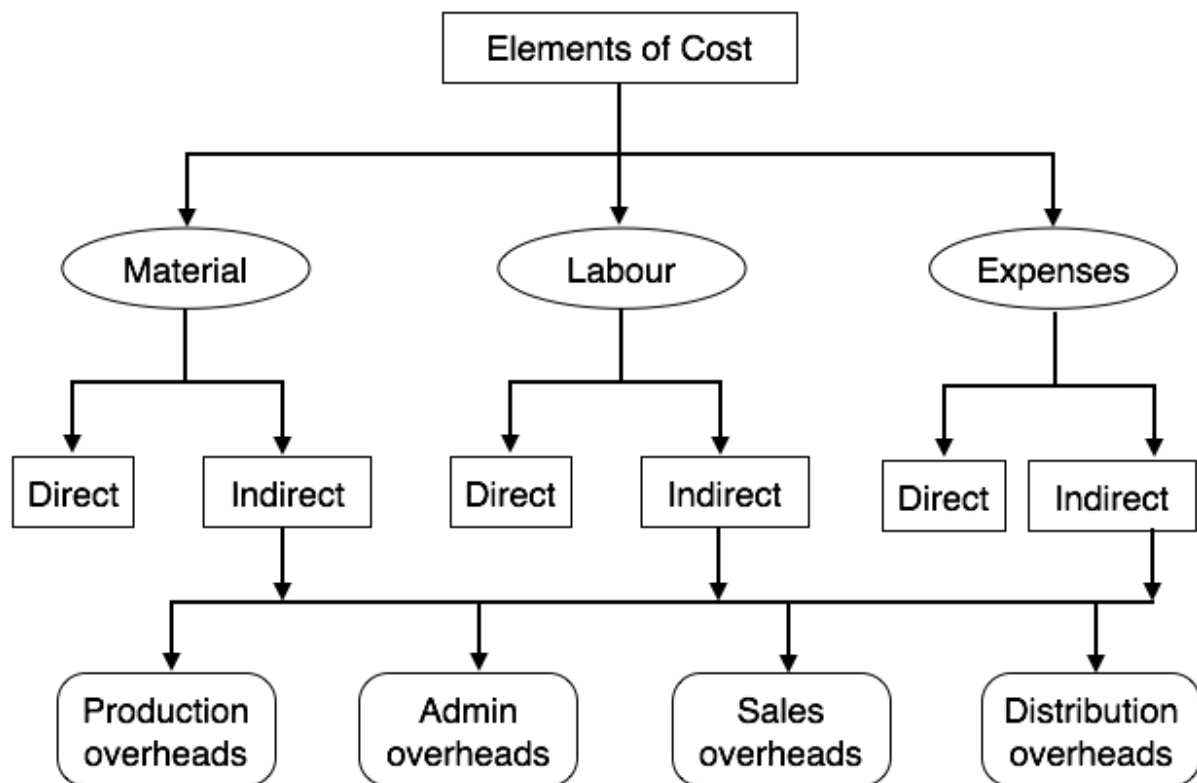
## By Change in Activity or Volume

Under this category, the cost is divided as fixed, variable, and semi-variable costs:

- **Fixed cost** It mainly relates to time or period. It remains unchanged irrespective of volume of production like factory rent, insurance, etc. The cost per unit fluctuates according to the production. The cost per unit decreases if production increases and cost per unit increases if the production decreases. That is, the cost per unit is inversely proportional to the production. For example, if the factory rent is Rs 25,000 per month and the number of units produced in that month is 25,000, then the cost of rent per unit will be Rs 1 per unit. In case the production increases to 50,000 units, then the cost of rent per unit will be Rs 0.50 per unit.
  - **Variable cost** Variable cost directly associates with unit. It increases or decreases according to the volume of production. Direct material and direct labor are the most common examples of variable cost. It means the variable cost per unit remains constant irrespective of production of units.
  - **Semi-variable Cost** A specific portion of these costs remains fixed and the balance portion is variable, depending on their use. For example, if the minimum electricity bill per month is Rs 5,000 for 1000 units and excess consumption, if any, is charged @ Rs 7.50 per unit. In this case, fixed electricity cost is Rs 5,000 and the total cost depends on the consumption of units in excess of 1000 units. Therefore, the cost per unit up to a certain level changes according to the volume of production, and after that, the cost per unit remains constant @ Rs 7.50 per unit.
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## Elements of Cost

The following chart shows the various elements of cost and how they are classified.



### Direct or Indirect Materials

The materials directly contributed to a product and those easily identifiable in the finished product are called direct materials. For example, paper in books, wood in furniture, plastic in water tank, and leather in shoes are direct materials. They are also known as high-value items. Other lower cost items or supporting material used in the production of any finished product are called indirect material. For example, nails in shoes or furniture.

### Direct Labor

Any wages paid to workers or a group of workers which may directly co-relate to any specific activity of production, supervision, maintenance, transportation of material, or product, and directly associate in conversion of raw material into finished goods are called direct labor. Wages paid to trainee or apprentices does not comes under category of direct labor as they have no significant value.

### Overheads

Indirect expenses are called overheads, which include material and labor. Overheads are classified as:

- Production or manufacturing overheads
- Administrative expenses

- Selling Expenses
- Distribution expenses
- Research and development expenses

## Preparation of Cost Sheet or Statement of Cost

A cost sheet is prepared to know the outcome and breakup of costs for a particular accounting period. Columnar form is most popular. Although cost sheets are prepared as per the requirements of the management, the information to be incorporated in a cost sheet should comprise of cost per unit and the total cost for the current period along with the cost per unit and the total cost of preceding period. Data of financial statement is used for preparation of cost sheet. Therefore, reconciliation of cost sheet and financial statement should be done on a regular interval.

### Format:

<b>COST SHEET OR STATEMENT OF COST</b>		
	<b>Total Units.....</b>	
Opening Stock of Raw material	.....	.....
Add: Purchases	.....	.....
	.....	.....
Less: Closing Stock	.....	.....
Cost of material Consumed →	.....	.....
Add: Direct Labor/wages	.....	.....
Prime Cost →	.....	.....
Add: Works overheads	.....	.....
Works Cost →	.....	.....
Add: Administration overheads	.....	.....
Cost of Production →	.....	.....
Add: Selling and distribution overheads	.....	.....
Total Cost or Cost of Sale →	.....	.....

## Cost Control and Cost Reduction

Let us go through cost control and its reduction:

### Cost Control

*Conceptually, accounting is the discipline that provides information on which external and internal users of the information may base decision that result in the allocation of economic resource in society.*

*...Slavin and Reynolds*

Accounting provides business-related information to the owner, the management, the employees of the company as well as to the government, creditors, investors, and customers.

Financial accounting is based on actual past and cost accounting is based on planning and controlling. Preparation of budget is a part of planning and controlling relates to putting a check on the actual function of planning. Comparison of budgeted with actual performance provide the management an idea to eliminate weak performances.

## Cost Control Techniques

Costs can be controlling by employing the following methods:

- Material Control
- Labor Control
- Overheads Control
- Standard costing
- Budgetary Control
- Capital Expenditure Control
- Productivity and Accounting Ratios

## Requirements for Successful Cost Control

The following requirements are to be fulfilled to implement successful cost control:

- A plan and a set of well-defined responsibilities to all executives are essential.
- Clear definition of tasks for performance and cost to execute those tasks.
- A fixed responsibility, in case of deviation between targeted and actual.
- Prompt collection of performance data from each department of an organization as the delay in information equals to no information and the management is unable to take correct decision due to lack of complete information.
- Highlights of good and bad, both performances to enable the management to take corrective steps.
- Reward for good performances and Punishment for the poor ones.

## Cost Reduction

*Cost reduction is to be understood as the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of product.*

*... The institute of Management Accountants, London*

There are only two ways to maximize profit of any organization: either to increase sale price of unit, or to reduce cost of that unit. Both above cases may result into

gaining good profit. As we are seeing today, most of the businesses are facing tough competitive market situation where increase in sale price may result in to loss of sale. Increasing sale price is possible only in case of those products where the company is dealing in monopoly items and we all are aware that this situation cannot prolong for any company and its products. Therefore, cost reduction is only one scientific way to deal with this situation; provided it is real and permanent. Cost reduction should not be the result of any temporary decrement in cost of raw material, change in government policies etc. and most importantly, reduction of cost should not be on price of quality of that product.

Reduction of cost should be in the following manner:

- Volume of production should be same but cost of expenditure should be reduced.
- Without changing level of production there should be increase in production.

### **Cost Reduction Program**

Followings are the essentials of a cost reduction program:

- Cost reduction program should be according to requirement of the company.
- Cost reduction program is a continuous activity that cannot be treated as one time or short term activity. Success of any cost reduction program may lie in only continuous improvement of efforts.
- Cost reduction program should be real and permanent.
- Example setter of cost reduction program should be top management employee. Success of this program depends on co-operation of all employees and department of an organization.
- Employees should be rewarded for their participation in cost reduction program and for giving innovative ideas related to this program.

### **Fields Covered under the Cost Reduction Program**

A number of fields come under the scope of cost reduction. They are discussed below.

#### **Design**

Manufacturing of any product starts with the design of product. At the time of improvement in design of old product as well as at the time of designing new product, some investment is recommended to find a useful design that may reduce the cost of the product in following terms:

#### **Material Cost**

Design of product should encourage to find out possibility of cheaper raw material as a substitute, maximum production, less quantity etc.

**Labor Cost**

Design of product may reduce time of operation, cost of after-sale service, minimum tolerance, etc.

**Organization**

Employees should be encouraged for cost reduction scheme. There should be no scope for doubts and frictions; there should be no communication gap between any department or any level of management; and there must be proper delegation of responsibilities with defined area of functions of an organization.

**Factory Layout and Equipment**

There should be a proper study about unused utilization of material, manpower and machines, maximum utilization of all above may reduce cost of any product effectively.

**Administration**

An organization should make efforts to reduce the cost of administrative expenses, as there is ample scope to do so. A company may evaluate and reduce the cost of following expenses, but not the cost of efficiency:

- Telephone expenses
- Travelling expenses
- Salary by reducing staff
- Reduction in cost of stationery
- Postage and Telegrams

**Marketing**

Following areas can be covered under the cost reduction program:

- Advertisement
- Warehouse
- Sales Promotion
- Distribution Expenses
- Research & Development Program

Any cost accountant should keep the following points in mind while focusing on cost reduction for the Marketing segment:

- Check the distribution system of an organization about the overall efficiency of the system and how economically that system is working.
- Find out the efficiency of the sales promotion system
- Find out if the costs can be reduced from the sales and distribution system of an organization and whether the research and development system of market is sufficient.
- A cost accountant should also do an ABC analysis of customers in which customers may be divided into three categories. For example:

<b>ABC ANALYSIS OF CUSTOMERS</b>		
Category	Number of Dispatches	Volume of Sale Covered
Customer...A	About 10%	60% to 80%
Customer...B	About 20%	20% to 30%
Customer ...C	About 70%	5% to 10%

After performing this analysis, the organization can focus on the customers who are covering most of the sales volume. According to it, the cost reduction program may be run successfully in the area of category B and C.

### **Financial Management**

Attention should be given to the following areas:

- If there is any over-investment.
- How much economical is the cost of capital received?
- If the organization is getting maximum returns for the capital employed.
- If there is any over-investment, that should be sold and similarly, unutilized fixed assets should be eliminated. Slow-moving or non-moving inventories should be removed and should transfer this surplus to the working capital to re-invest it in a cycle of more profitable area of business.

### **Personal Management**

Cost reduction programs can be run using staff welfare measures and improving labor relation. Introduction of incentive schemes for labor and giving them better working conditions is very important to run an efficient cost reduction program.

### **Material Control**

Cost reduction program should be run by purchasing economical and more useful material. Economic Order Quantity (EOQ) technique should be used. Inventory should be kept low. Proper check on inward material, control over warehouse and proper issuance of material, and effective material yield should be done.

### **Production**

Using effective control over material, labor, and machine a better cost reduction program may be run.

## **Tools and Techniques of Cost Reduction**

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The following tools and techniques are used to reduce costs:

- Budgetary Control
- Standard Costing
- Simplification and Variety Reduction
- Planning and Control of Finance
- Cost Benefit Analysis



- Value Analysis
- Contribution Analysis
- Job Evaluation and Merit Rating
- Improvement in Design
- Material Control
- Labor Control
- Overhead Control
- Market Research