

**Cost Accounting**  
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**School of Management**  
**Indian Institute of Technology, Bombay**

**Lecture - 01**  
**Introduction to Cost Accounting**

[FL]. Welcome to the new course that is a course on Cost and Management Accounting. In this course this a short course just for 10 hours we are going to discuss about certain important conceptual aspects as to what cost accounting is? In very very brief we will discuss about the types of cost, the methods of cost accounting and then we will go to management accounting part of it or the techniques of cost accounting part.

So, techniques include marginal costing or breakeven point analysis or cost volume profit analysis, then standard costing, budgetary control. So, we will be also taking in to consideration various cases of CVP analysis or of standard costing or budgetary control. As far as the methods or the introductory part is concerned we will only go through the conceptual part, I hope the course will be very much useful those who in short in just 10 hours want to just get a glimpse of cost and management accounting the course will be very much useful.

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• Dr. Varadraj Bapat 

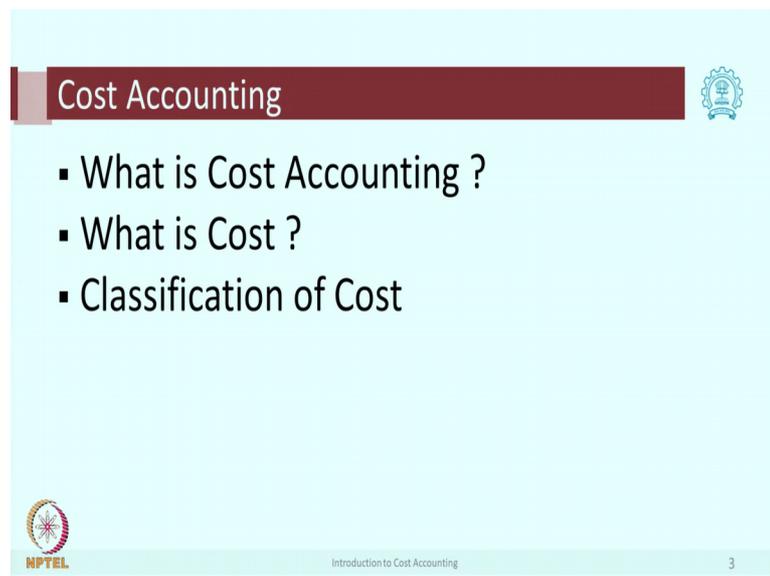
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- School of Management, Indian Institute of Technology, Mumbai
- Teaching Interests: Financial Accounting, Management Accounting, Indian Economy
- Research Interests: Financial Accounting, Financial Inclusion, Corporate Finance
- Others: Yoga, Spirituality, Sanskrit, Bharatiya Sanskriti, ABVP

 Introduction to Cost Accounting

Myself Varadraj Bapat, I am a faculty in Accounting and Finance in School of Management IIT, Mumbai. I am a rank holder chartered accountant and cost accountant

then I have done M.Com, DISA and have done PhD in finance from IIT Bombay. My major teaching interests include financial cost accounting and also Indian economic and financial model. My research interest are also accounting, financial inclusion, corporate finance. I am also into various extracurricular, but very important activities like yoga, spirituality or Sanskrit, Bharathiya Sanskrithi, ABVP and so on. Let us move to cost accounting now with this discussion.

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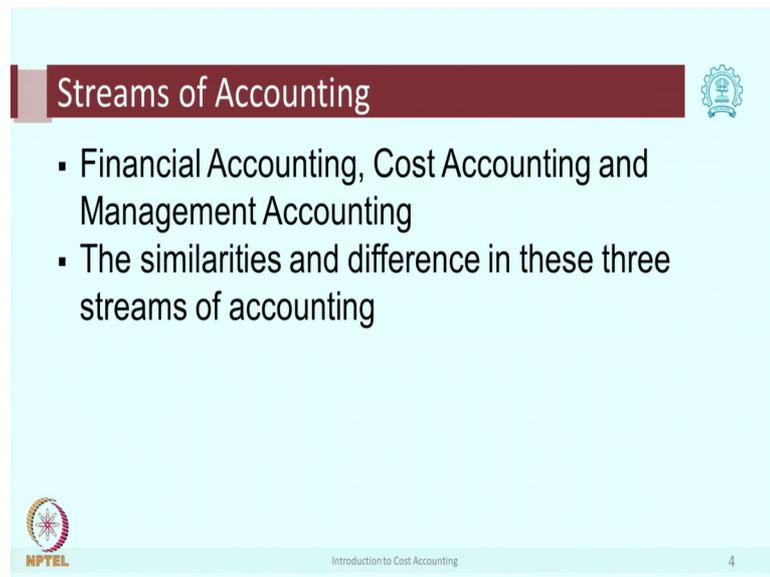
**Cost Accounting**

- What is Cost Accounting ?
- What is Cost ?
- Classification of Cost

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So, in the beginning we will this particular PPT will talk about, what is cost accounting, what is a distinction between cost and others streams of accounting, then what is cost and classification of costs.

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Streams of Accounting

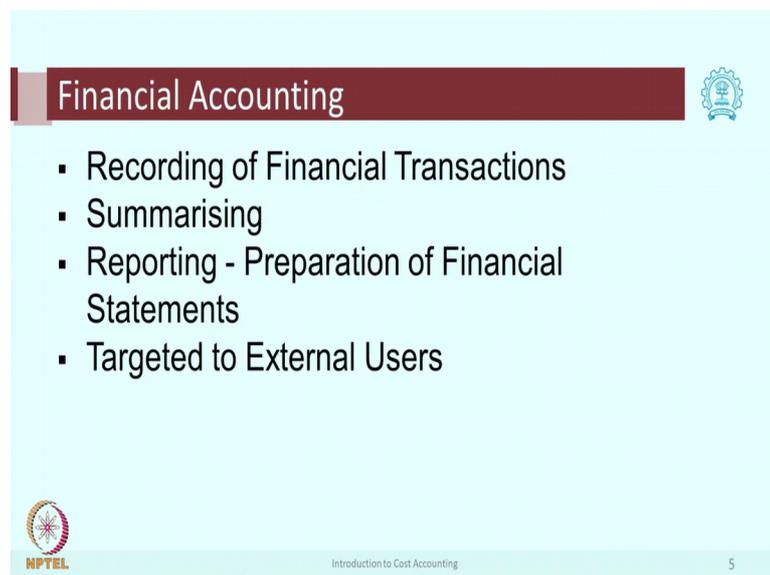
- Financial Accounting, Cost Accounting and Management Accounting
- The similarities and difference in these three streams of accounting

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There are three major streams; financial, cost and management accounting; some of you might be knowing about financial accounting.

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Financial Accounting

- Recording of Financial Transactions
- Summarising
- Reporting - Preparation of Financial Statements
- Targeted to External Users

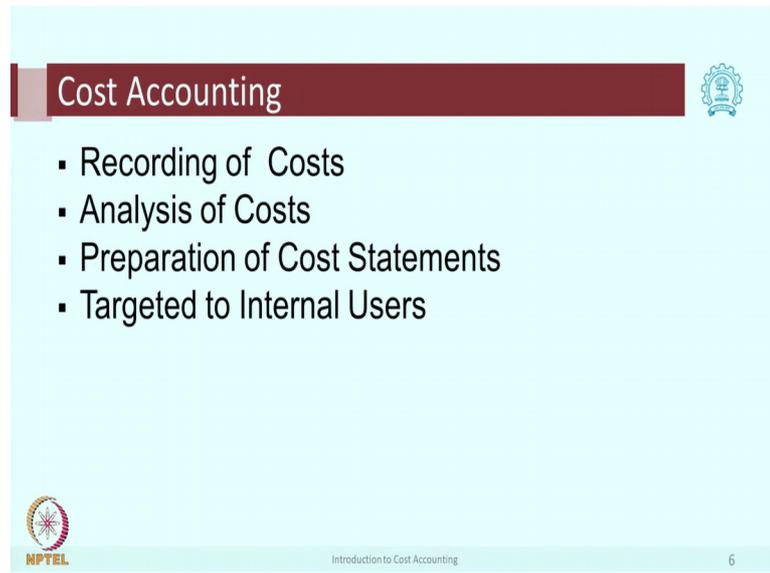
NPTEL Introduction to Cost Accounting 5

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There are three important steps in financial accounting, first is recording of financial transactions. So, every financial transaction as and when happens is recorded in the financial accounting system. Then it is summarized in ledger and report is prepared which is in the form of financial statements, the target users for financial accounting system is external users. So, it is meant for shareholders, it is meant for employees, it is

meant for government; internal users also use it but, major target is external user. Now, in relation or in comparison with this let us see what is cost accounting?

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**Cost Accounting**

- Recording of Costs
- Analysis of Costs
- Preparation of Cost Statements
- Targeted to Internal Users

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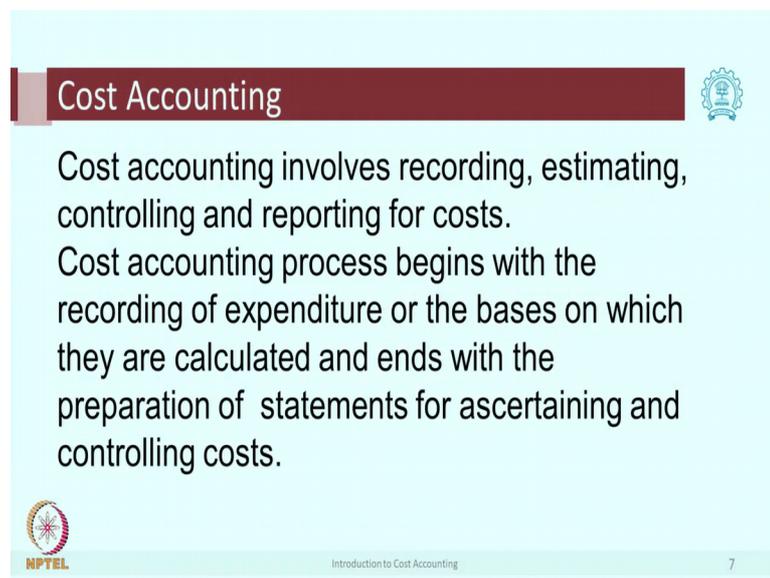
In cost accounting again the first step is similar recording of cost, in financial accounting also it was recording of financial transactions, here it is recording of cost you may feel it is duplication, but it is not. So, because in cost accounting cost are recorded with lot more details. For example, if salary bill for an organization is 5 crore, in financial accounting total amount 5 crore will be include recorded. But in cost accounting for each type of employees how much is paid, what where the activities done by them on daily or hourly basis, for what that salary is paid like those details are recorded that is why this is a more detail recording of cost that is involved.

Next is analysis of costs so, each of the costs are now broken down. So, suppose we were talking about salary cost, they would be broken down as to what are factory related salary cost, how much are admin related, how much are selling related, how much is a overtime, how much is paid as incentives?

What was the nature of work being done for that by that employee, how much is a direct cost in the salary, how much is the indirect cost in the salary? Like that detailed analysis is made, comparisons are made sometimes projections are made in financial accounting these are only the actuals you are not allowed to make projections.

But, in cost accounting we make estimates and those estimates are also used to make budgets or to make future projections. Based on all this analysis the cost statements are prepared as for the needs of users and here the users are internal users. So, manager, decision makers within the organization right from supervisor level to mid management to CEO and even to board of directors, this is the confidential data. So, it is normally shared with external users except for a few statements ok. So, this is in brief what is cost accounting. Now, this is the definition of cost accounting.

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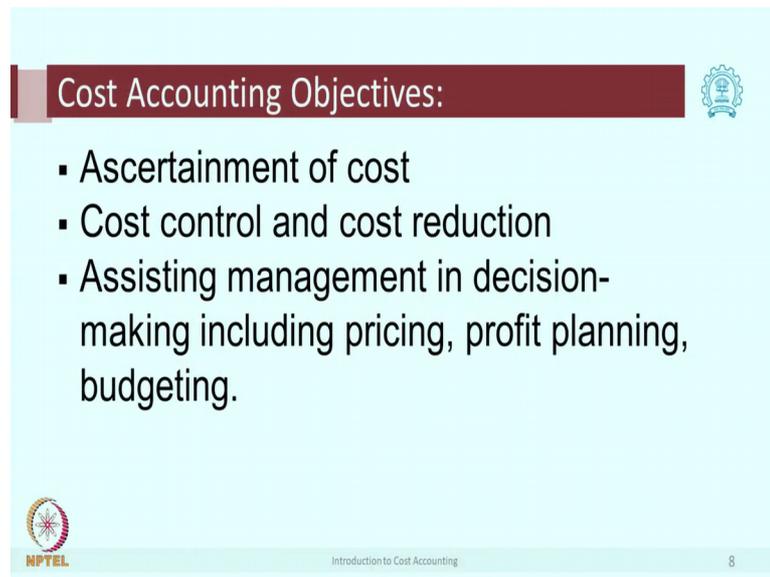
**Cost Accounting**

Cost accounting involves recording, estimating, controlling and reporting for costs. Cost accounting process begins with the recording of expenditure or the bases on which they are calculated and ends with the preparation of statements for ascertaining and controlling costs.

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It involves recording, estimating, controlling and reporting of costs. So, you would observe estimating is also involved and controlling is also involved. So, cost accounting does not just stop at recording, it tries to keep those costs in check, tries to control the cost. Now, this process begins with the recording and also the basis on which they are calculated and ultimately we prepare the cost estimates.

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**Cost Accounting Objectives:**

- Ascertainment of cost
- Cost control and cost reduction
- Assisting management in decision-making including pricing, profit planning, budgeting.

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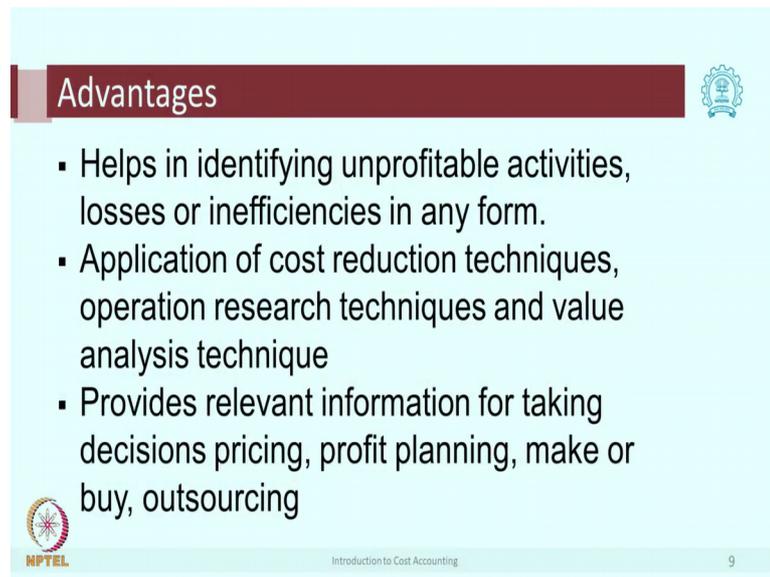
Now, the objectives of cost accounting system is ascertainment of cost so, to know the cost, but it is not the total only; to the know the cost for the product, for a process, category wise, plant wise, function wise. So, it is detail ascertainment of cost, now this detail assessment is ascertainment is used for cost control.

So, certain standards are set or budgets are laid down, their actuals are compared with the norms or the standards and efforts are made to see that actual cost does not exceed what is permitted or what is budgeted. So, cost control exercises is done, cost reduction is also done. So, that we have permanent benefit of lesser cost then a variety of information is generated to help in decision making that could be for pricing decisions.

So, if we know correct information about cost we will be able to price our product or service properly. Customers might ask for some extra things, we have to give delivery, we may have to incur certain risk like giving guarantee; all those aspects are calculated and built into cost.

So, that proper pricing can be done, it is also useful for other decisions like profit planning because entity should know how much units it should produce or up to what level it should extend it service. Then budgeting is done so, that a systematic allocation of resources can be done; like that variety of management decisions are catered and they would be taken much in a much better way if accurate and timely cost data is available. So, these are the objectives of cost accounting system.

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**Advantages**

- Helps in identifying unprofitable activities, losses or inefficiencies in any form.
- Application of cost reduction techniques, operation research techniques and value analysis technique
- Provides relevant information for taking decisions pricing, profit planning, make or buy, outsourcing

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Now, the advantages, since we know detail cost record it helps us in identifying losses and efficiencies. So, unprofitable activities can be weeded out, then certain cost reduction techniques can be used or value analysis can be done. So, that wasteful cost can be eliminated altogether and more value can be provided from whatever resources which we are using.

And the third part which you already discussed that a better information helps in much improved decision making. It could be profit planning, it could be make or buy decision or instead of we making we can go for outsourcing that product or going for outsourcing of a particular service. All these types of decisions are made in much better way because of cost accounting system.

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**Management Accounting**

- Recording of Financial & other data
- Analysis of Financial and other information
- Preparation of Statements for Managerial Decisions

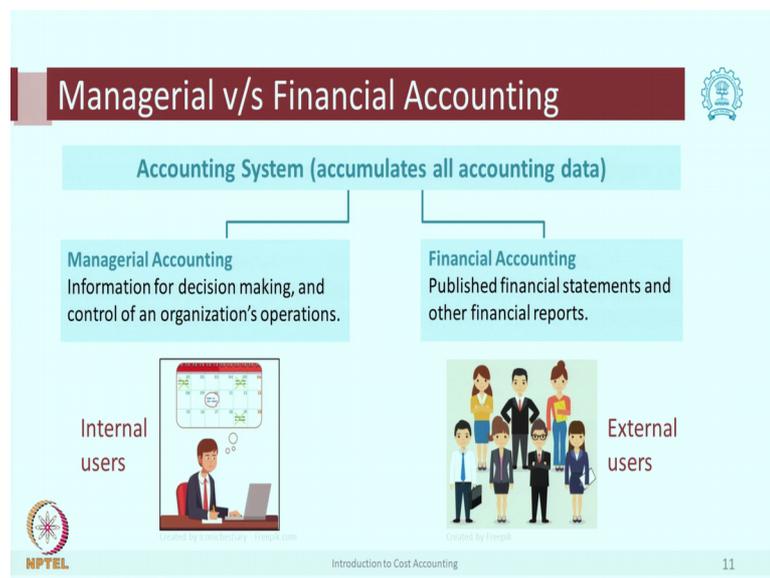
  

- Targeted to Internal Users - All levels of Management
- This is a broader concept encompasses Financial and Cost Accounting

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Now, management accounting this is a kind of umbrella concept where both financial and cost data are taken together and it is mainly targeted to internal users.

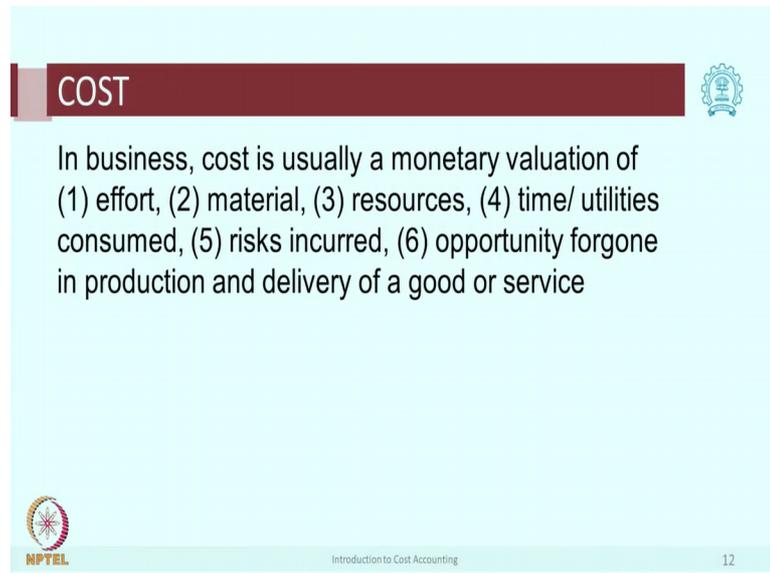
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As the name suggest it is called management accounting because, it is mainly for internal users. So, here in this figure we are seeing a comparison of management versus financial accounting. In management accounting variety of decision making is done for better control and for a good decision making, in financial accounting financial statements are

prepared and target are external stakeholders ok. In this particular course we are going to focus on cost and management accounting.

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The slide features a dark red header with the word "COST" in white. Below the header, the text defines cost as a monetary valuation of six items: (1) effort, (2) material, (3) resources, (4) time/ utilities consumed, (5) risks incurred, and (6) opportunity forgone. The slide includes logos for NPTEL and a university crest, and footer text: "Introduction to Cost Accounting" and "12".

**COST**

In business, cost is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time/ utilities consumed, (5) risks incurred, (6) opportunity forgone in production and delivery of a good or service

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Now, the definition of cost; now, in business or even in other activities other than business the cost is usually a monetary valuation of any of these things; may be of effort or of material, resources, time, risk involved and opportunities forgone for production or delivery of any goods or service.

So, for any activity we are doing normally we have to sacrifice some resources either to we have to give up opportunities are we have to spend on material or we have to give our time or we have to give our resources. All this will be included in the cost we will try to give a monetary valuation to it and go on adding it for calculations of cost.

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## COST

In business, cost is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time/ utilities consumed, (5) risks incurred, (6) opportunity forgone in production and delivery of a good or service

Production Distribution Consumer

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Normally, this is how business functions some production may be done, then we go for supply chain or distribution and the product is supposed to reach the customer. Now, the costs are incurred all these stages and accordingly the cost are also classified related to production, related to marketing and distribution, related consumer service or related to administration for looking after all these activities and there can be other cost like research and development cost and so on.

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## What is COST?

A cost can be defined as the amount of resources given up in exchange for any goods or service.  
**e.g.** Material cost, Labour cost, electricity cost, fuel cost etc.

**Capitalised Cost:** The cost incurred on fixed assets are capitalised cost. **E.g.** cost incurred to purchase machineries. These cost are not covered here, except which is subsequently treated as expenses (depreciation).

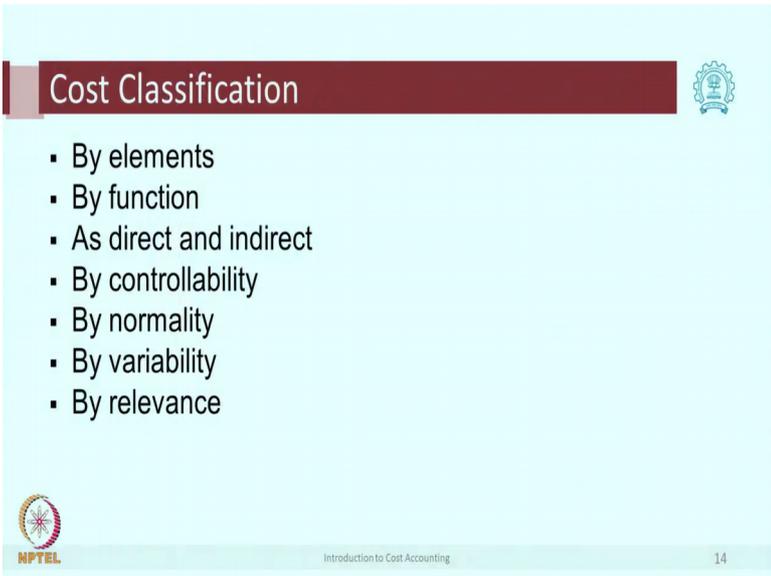
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This is one more definition of cost, it can be define as amount of resources given up in exchange of any goods or services. So, suppose we want to buy material, we will have to pay the supplier that is called as a material cost. When we pay salaries or overtime or incur on perquisites of the employees it will be included as a labor cost or as salary cost or human resource cost. Then we buy various services like electricity or like insurance on which costs are incurred all these are included as an examples of cost. There are also other type of cost known as capitalized cost.

Now, this is a cost incurred on fixed assets like purchase of machinery or like installation of machinery. Now, this cost are going to give us long term benefits; these are not cost just for that period, if a machinery as a life of 5 years we will get the benefit for 5 years. So, we will charge depreciation on that asset for 5 years period and that depreciation is included on day to day cost. So, the whole of capitalized cost is not considered as cost of that period, but a proper proportion of that in the form of depreciation or amortization is included in the cost.

Now, very important part that is cost classification. Now these will tell us different chapters in cost accounting because these is a detailed analysis on the lines of the classification we can go for more detail study of a cost for a particular item or for a particular product ok.

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The slide features a dark red header bar with the title "Cost Classification" in white. To the right of the title is a small blue gear icon. Below the header, a bulleted list contains seven items: "By elements", "By function", "As direct and indirect", "By controllability", "By normality", "By variability", and "By relevance". The slide also includes the NPTEL logo in the bottom left corner, the text "Introduction to Cost Accounting" in the bottom center, and the number "14" in the bottom right corner.

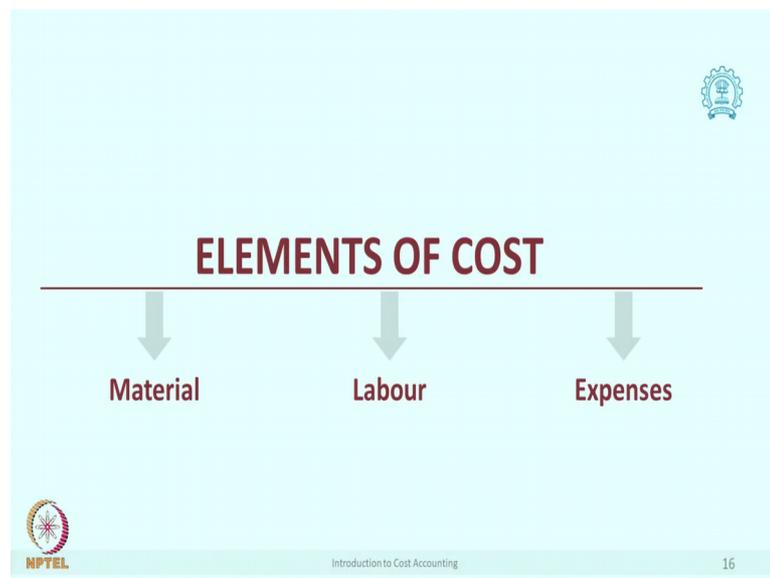
## Cost Classification

- By elements
- By function
- As direct and indirect
- By controllability
- By normality
- By variability
- By relevance

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So, first we of classifying is by elements, first in a sense that is one of the most traditional ways, then by function or by direct indirect, by controllability, variability, relevance and so on right. Now, let us go for first classification that is cost classification by elements. Do you know what are the important elements of cost?

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There are three important elements; the first one is material, labor and expenses.

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Now, the material cost; this is the cost incurred on any tangible substance or a thing. Best example could be purchase of raw material, it can also be purchase of any of the

components, suppose you are purchasing any other tangible item that will be included in the material cost.

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**Employee/ Labour**

The cost incurred on human efforts.  
e.g. Salary, Wages, Bonus, Incentives, Retirement Benefits, Perquisites

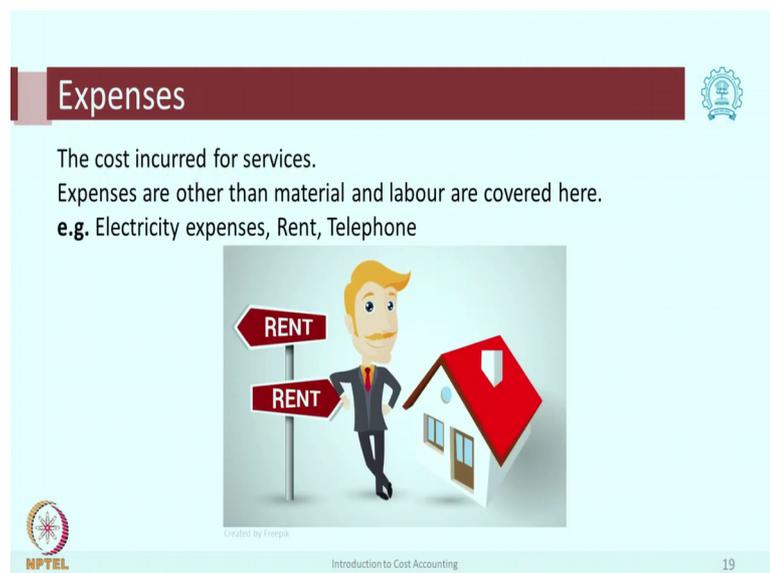


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Next is employee cost; this is the cost on all human resources will include salary, wages, bonuses, perquisites, retirement benefits any other incentives or ESOP's. All this is included in the labour cost or employee cost.

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**Expenses**

The cost incurred for services.  
Expenses are other than material and labour are covered here.  
e.g. Electricity expenses, Rent, Telephone



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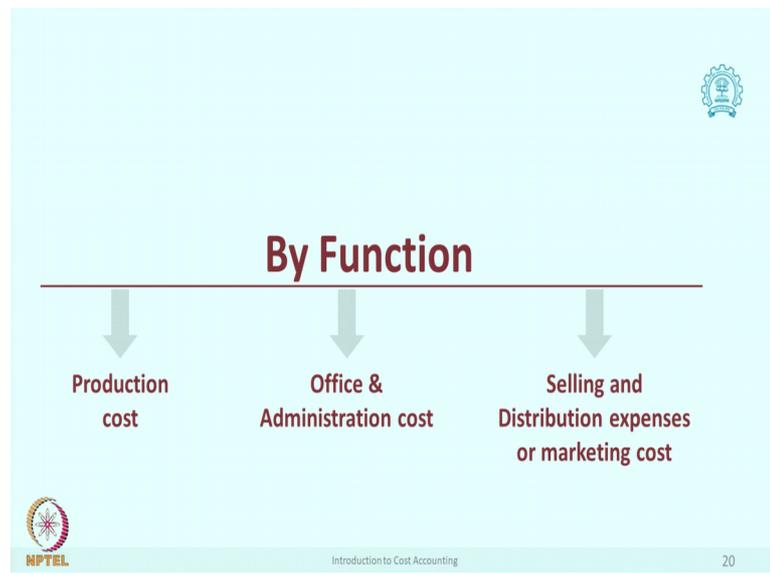
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Third are services so, when we purchase any outside service the cost incurred on the same like electricity, like insurance, like rent that is all included in the expense, this is

also a residuary head. So, what is not included material and labour will be included in the expense. Now, this is the most traditional way of classifying as material, labour and expense.

But, to know more details or to try to control the cost further type of classifications were also involved and that lead to classification by function. So, as per the important business functions the cost also are classified. So, what are the important business functions? Just think over it, I think most of you are getting it can be production, it can be selling and distribution, it can be administration and so on.

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According to that the costs are also classified. So, we have got production cost, admin cost, selling cost; there can be other functions like R and D, those according to then the cost will be classified. Now, what is the advantage of this classification? Because now it is as per the function so, it helps us in better control of the cost. So, whatever is a material labour or overheads consume for production we can hold production manager responsible for it.

We can set a target for the same according to the level of output, we can make admin manager responsible for admin cost and go on adding the cost related to office or related to administration. This is our functional cost, help us in better control that does not mean element wise costs are not important. This is overlapping, that is one way of classifying

this is another way we are going to learn further different ways. The third important function is selling and distribution.

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## By Function

In this classification costs are divided according to the function for which they have been incurred. They include ??

e.g. production cost, office & administration cost, selling & distribution costs

- **Production cost:** materials, direct labour, stores overheads etc.
- **Office & administration cost:** cost of formulating policy, directing the organisation and controlling the operations. E.g ??
- **Selling and distribution expenses or marketing cost:** expenditure incurred generating demand, on moving articles to prospective customers etc.



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So, we the classification helps us in whether we should outsource a function, whether we should go for better control, whether we should give more focus, is it our strength, weakness we come to know from cost classification by function. Now, next important classification is cost classification by direct and indirect.

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## DIRECT COST

Direct costs are costs which can be easily attributed to a particular cost center/ product.

e.g. the cost of fruits in fruit pulp production

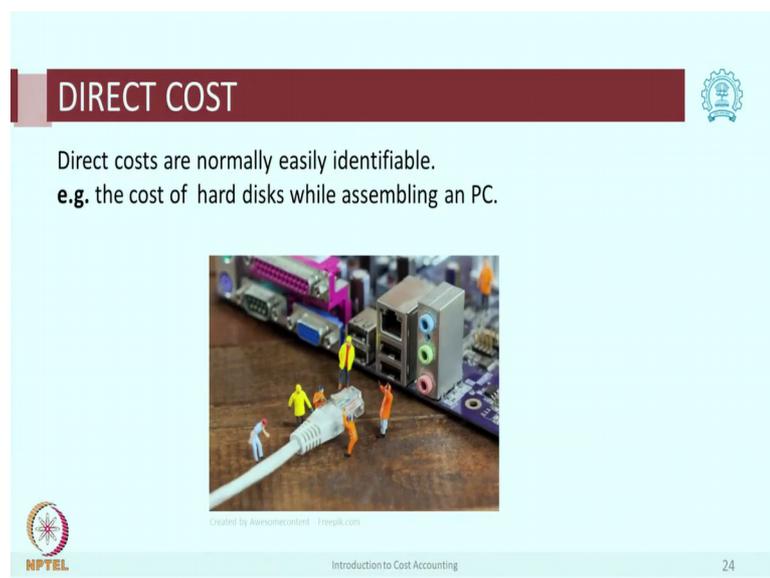


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So, the direct cost are those cost which can I easily identified. So, different cost can be divided as per cost centres or as per products. If we can identify a cost to a cost centre we can consider it as a direct cost for example, cost of fruits in fruit pulp production. So, if you are making fruit pulps we know that raw material in the form of fruit will be purchased.

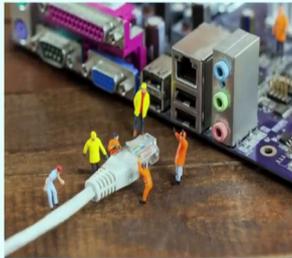
We also know that for which product, let us see if your making mango juice the mangoes which are purchased can be charged to mango juice production unit. If we are making some juice of some other product, let us say guavas we can go for identifying that purchase to that particular unit then those costs that is purchase of raw material will become a direct cost. Because, it can be easily traced or identify as against this there are certain there is one example given over here.

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**DIRECT COST**

Direct costs are normally easily identifiable.  
e.g. the cost of hard disks while assembling an PC.



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That if you are into business of hardware of computers, suppose you are assembling PC you know that hard disc goes into making of PC. So, the cost of hard disk you can easily identified with the particular PC which is getting assembled. So, you call it a direct cost as against this there are several cost which are common in nature.

They may not be for a specific product then they those are called as indirect cost, let us say we are in we are a small unit making hardware. So, we make we assemble PC's, we assemble certain other things, we also do some small service or repair work. Now,

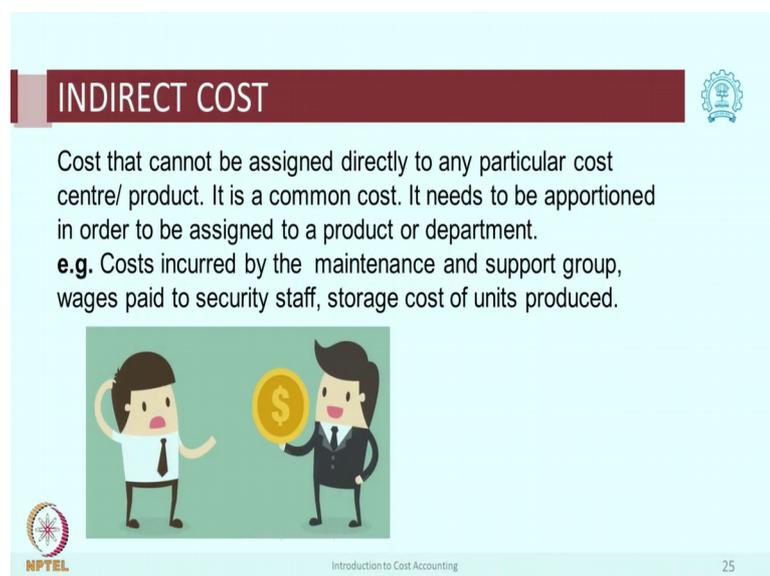
number of engineers or technical personnel either work for servicing maintenance or they also work for assembling of PC's or certain items.

Now, we exactly do not know the salary paid to a particular person and its linkage to anyone particular product or a service job because, different work is being done simultaneously in our office or in the workshop. So, salary cost cannot be as easily identified as we are able to know the cost of hard disk, are you getting?

So, cost of hard disk for a particular PC is a direct cost whereas, the salary cost become a better example of indirect cost. Can you think of any other example of indirect cost? For example, rent if we are paying rent for our shop or our factory can we identify it to for any one product? That will not be possible, because rent is for the whole system in that we are making several products, we are also doing certain service related jobs.

So, rent remains an indirect cost, earlier we took example of fruit pulp manufacture. So, we know that the raw material that is fruits purchased are for making of particular type of pulp, it is a direct cost. Can you think of any indirect cost? For example, if we are if you have a maintenance team or even one person for maintenance of these machines, same person whenever there is any problem services or maintains different machines. So, it will not be possible for us to know exactly with accuracy salary of the person to be charged to which unit of pulp manufacture. So, it is an example of indirect cost, are you getting me?

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**INDIRECT COST**

Cost that cannot be assigned directly to any particular cost centre/ product. It is a common cost. It needs to be apportioned in order to be assigned to a product or department.

**e.g.** Costs incurred by the maintenance and support group, wages paid to security staff, storage cost of units produced.

The slide features a dark red header with the title 'INDIRECT COST' in white. Below the header, there is a definition of indirect cost and an example. At the bottom, there is an illustration of two men in business attire; one is holding a large gold coin with a dollar sign. The slide also includes the NPTEL logo in the bottom left corner and the text 'Introduction to Cost Accounting' and '25' in the bottom right corner.

So, here is an example given maintenance support group or security. So, outside the factory there is a security, that security is for let us say there are 10 units inside the factory. Security is common for all the 10 units, we will not know exactly the salary of security to be charged to which unit that is why it is considered as indirect cost. Same way storage cost in go downs or in showrooms this also become indirect cost.

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The slide features a dark red header with the text 'INDIRECT COST' in white. Below the header, the word 'Overheads' is written in black. Underneath, there are three lines of text: 'Rate per hour', 'Composite rate/ Departmental Rates', and 'ABC'. The slide includes a small gear icon in the top right corner, the NPTEL logo in the bottom left, and the text 'Created by Doordar - freepik.com' and 'Introduction to Cost Accounting' in the bottom center. The number '26' is in the bottom right corner.

There is another name for indirect cost which is more popular and you might have heard it that is over heads. Now, the overhead cost being common in nature cannot be charged directly or cannot be charged at cannot be attributed directly like a direct cost. So, many times a rate per hour is calculated. We take the total for that type of overhead divided by number of hours. Suppose here is an example of maintenance, if we have a maintenance and support group we calculate their total cost divided by a number of hours for which they have work which will give us rate per hour.

Now, whenever maintenance person is called and suppose works for 5 hours and rate per hour is 2000 then 5 into 2000 we will be able to charge 10000 for the unit which has used maintenance facility, getting it? So, overheads are charged using rate per hour, sometimes composite or departmental rates are calculated. There are also some techniques like a activity based costing which are little advanced techniques for charging of overheads. Later on we will go into it, but right now let us understand that this

particular classification direct versus indirect is very much useful for better control of cost.

It helps us in ascertainment of cost for a particular product or for particular cost centre, it also helps us in better control. Because, we will know that for this product this is a direct cost and we will be able to give more attention or make a budget or a standard for more and a more suitable control of that particular cost.

So, here will stop at whatever classification we have discuss and we are going to continue this and discuss some more types of classifications in the next session. [FL].