UNIT 4

Traditional and Activity Based costing systems,

Cost Management System

- Managers need accurate and timely information for strategic decisions, operational controls, measurement of inventory value and COGS for financial reporting to investors and external stake holders
- COST ACCOUNTING SYSTEM INCLUDE COST ACCUMULATION AND COST ASSINGMENT

COST

- It is the expenditure incurred for producing the product or rendering the service.(i.e Actualor notional amount of expenditure attributable to a specific product or activity).
- Cost also include notional expenditure. For eg. Depreciation is a notional expenditure but forms part of cost – production overheads.
- It should be expressed from manufacturers point of view (and not from customer’s point ofview).

Cost Objects

t is very important to understand the meaning of ost object, cost unit and cost driver. Their meaning longwith examples are illustrated below.

Cost Object: Cost object is anything for which a separate measurement of cost is required. Cost object may be a product (book), a service (airline), a project, a customer, a brand category etc.

Cost Units: It is a unit of product, service or time (or combination of these) in relation to which costs may be ascertained or expressed. Example for power industry is kilo Watt hour (kWh).

Cost Drivers: A Cost driver is a factor or variable which effect level of cost. Example for a purchase department is number of purchase orders.

Materials

Materials are the basic input that are transformed into finished goods in the production process.

Materials costs based on relationship with finished goods, can be broken down into direct and indirect costs.

Control of Materials

Accounting for materials in a manufacturing company usually involves two activities.

(1) Purchase of Materials	(2) Issue of Materials
(i) Purchase Requisition	(i) Periodic Inventory System
(ii) Purchase order	(ii) Perpetual Inventory System
(iii) Receiving Materials	

1. Purchase Requisition

Purchase is initiated through a purchase requisition.

Avon Company Ltd **Number**

Purchase Requisition

Department/Individual making request……..

Order date ……. Delivery date requested……..

Quantity	Catalogue number	Description	Unit price	Total
			Total cost	

Approved b y……..

Figure 1: Purchase Requisition

2. Purchase Order

After the requisition has been approved, the purchasing department places order.

Avon Company Ltd
(full address)
Purchase Order

Number

Supplier…….
Address……
Delivery terms…….

Order date……
Date delivery requested by……
Payment terms……..

Quantity	Catalogue number	Description	Unit price	Total
			Total cost	

Approved b y……..

Figure 2: Purchase Order

3. Receiving of Materials

Quantities and condition on receipt of goods are noted by the receiving department on a Receiving Report as shown in Figure 3.

Avon Company Ltd — Number

Receiving Report

Supplier ……

Purchase order number……

Date received……..

Quantity	Catalogue number	Description	Unit price	Total
Approved signature……				

Figure 3: Receiving Report

Storing and Issuance of Materials

The basic accounting records of any inventory system are the documents required to authorise and record materials movements in/out of the store, namely, stocks/stores/materials ledger cards, bin cards and materials requisition note.

Stock/Stores/Materials Ledger Cards

They show quantities on order, expected delivery dates and quantities reserved/required for work to be processed. They show the account number; description/type of material; location; unit measurement; minimum and maximum quantities to carry; details about the materials received; issued and balance.

Labour

Labour is the physical/mental effort expended in the production of a product.

Labour costs can be broken down into direct and indirect, based on the employees' relationship with the finished product.

Total labour costs are based on elements other than just wages paid. The additional costs include bonus payments, vacation pay, pension costs and other fringe benefits including employees contribution to health, life and other insurance.

1. Factory Overhead Application Rate

Factory overhead absorption rate can either be actual overhead rate or a predetermined overhead rate.

Normally, a predetermined overhead rate is preferred, the reason being:

(a) It is useful in 'bidding' cases to determine quotation prices;

(b) It enables individual jobs to be costed immediately on their completion; and

(c) Such a rate levels out the fluctuations which may be caused by variations in actual factory overhead costs and/or actual level of activity.

Predetermined overhead rate is determined dividing budgeted factory overhead costs for the coming period/year by capacity level.

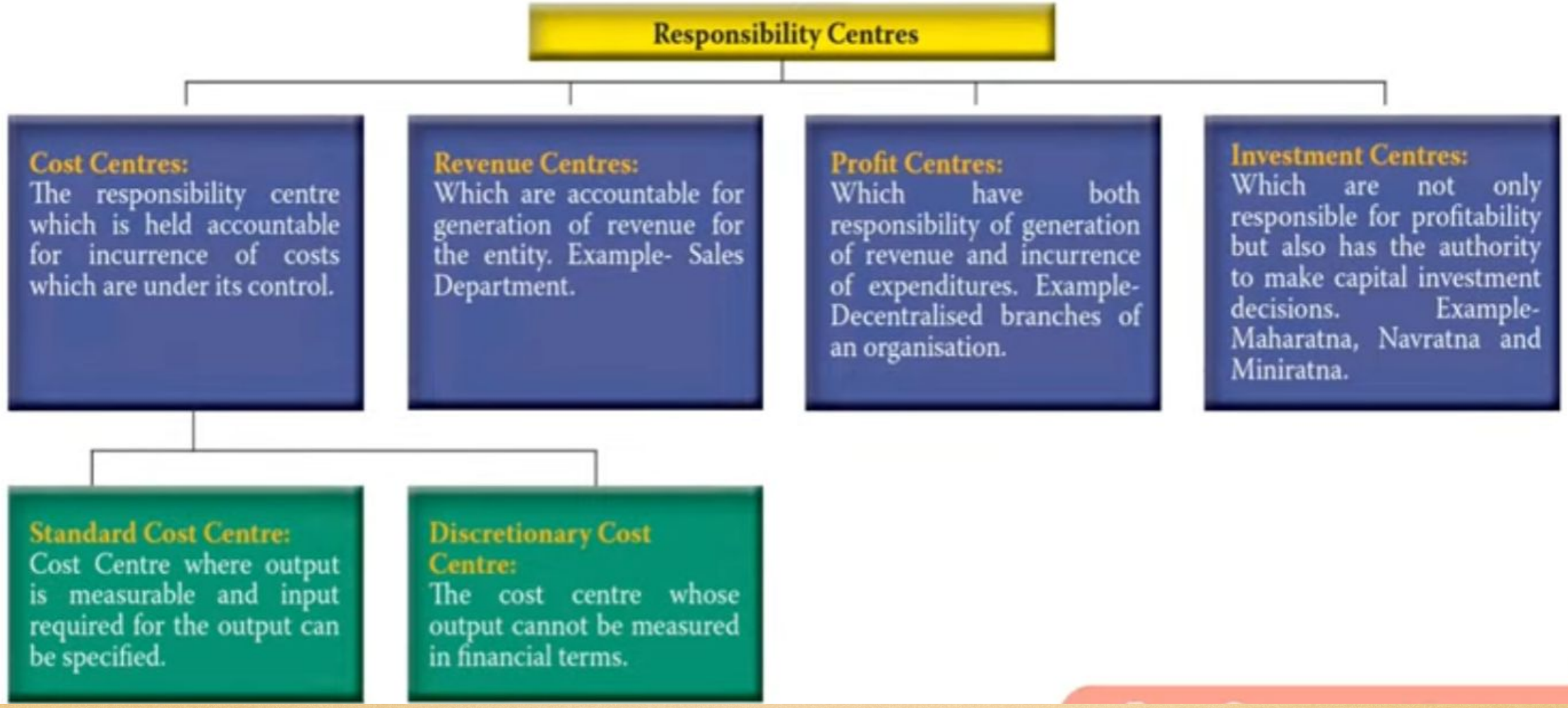
Two key factors to determine the factory overhead application rate for a period are:

a) To select a volume/level of production (more commonly referred to as capacity) to be used as a base for applying factory overheads to production (denominator) and

b) To budget factory overheads at the capacity selected (numerator).

Responsibility Centres

To have a better control over the organisation, management delegates its responsibilities and authorities to various departments or persons, which are known as responsibility centres. There are four types of responsibility centres as discussed below:



COST ALLOCATION

- To assign indirect cost to cost objects we use cost allocation , in proportion to the cost objects use of a particular cost allocation base. A cost allocation base is some measure of input or output that determines the amount of cost to be allocated to particular cost object.an ideal cost allocation base would measure how much of the particular cost is caused by the cost object . Most cost allocation bases are cost drivers.

Purpose of cost allocation

- To predict Economic effect of strategic and operational control decision
- To provide desired motivation and give feedback for performance evaluation –include those cost for which managers are directly responsible
- To compute income and asset valuation for financial reporting.

Method of cost allocation

- Prepare a cost pool
- Select an allocation base for cost pool (cost driver)
- Measure the units of cost allocation base used for each cost object and compute the total units used for all cost objects
- Determine the percentage of total cost –allocation base units used for each cost object
- Multiply the percentage in above step by the total cost in cost pool to determine the cost allocated to each object

Method of cost allocation

- Suppose Indirect cost – depreciation (4 L) in cost allocation pool
- Cost allocation base – machine hours
- Dell used 2000 machine hours to make Inspiron laptop and 3000 machine hours to make latitude laptops for a total of 5000machine hours
- 2000/5000 = 40% machine hours by Inspiron therefore depreciation cost (indirect) cost allocated to Inspiron = 40 % of 4L = 160000

Method of cost allocation

- Cost allocation base –rent (department) – per square feet
- Cost allocation base – professional labour(lawyer) – labour hours – to department – job- project
- Cost allocation base – operating cost of registrar office- allocate them to departments – basis no. of students

Unallocated cost

- R&D, process design, information services, executive salaries,

TRADITIONAL COSTING SYSTEM

- PROCEDURES WERE BUILT AROUND THREE PRODUCT COSTS:
- DIRECT MATERAL
- DIRECT LABOUR
- OVERHEAD
- AS COMPARED TO DM AND DL THE PROPORTION OF OVERHEAD COST WAS LOW.
- IS THE ALLOCATION OF FACTORY OVERHEAD TO PRODUCTS BASED ON THE VOLUME OF PRODUCTION RESOURCES CONSUMED.. OVERHEAD IS USUALLY APPLIED ON THE BASIS OF EITHER THE AMOUNT OF DIRECT LABOUR HOURS CONSUMED OR MACHINE HOURS USED. IT IS AN ACCOUNTING METHOD THAT IS USED TO PREDICT PROFIT. THIS METHOD USES CAUSE AND EFFECT TECHNIQUES AND TAKES INTO ACCOUNT DIRECT,INDIRECT AND EXPENSES IN BUSINESS

MAIN STEPS

- THE MAIN STEPS IN ACCOUNTING FOR OVERHEAD ARE:-

I. ALLOCATION AND APPORTIONMENT OF OVERHEAD TO VARIOUS PRODUCTION DEPARTMENT AND SERVICE DEPARTMENT

II. REAPPORTIONMENT OF SERVICE DEPARTMENT OVERHEAD TO PRODUCTION DEPARTMENT

III. OVERHEADS ARE AGGREGATED AT THE PRODUCTION COST CENTRES AND ARE ASSIGNED TO UNITS PRODUCED.

TRADITIONAL COSTING SYSTEM

- .
- IN TRADITIONAL COSTING SYSTEM THREE COMMONLY USED METHODS ARE:

I. THROUGHOUPUT COSTING

II. VARIABLE COSTING

III. ABSORPTION COSTING

EXPALANATION OF METHODS

- THROUGHPUT COSTING:-ONLY SPENDING FOR RESOURCES IS COUNTED AS COSTS OF THE PRODUCT AND ALL OTHER COSTS ARE EXPENSED,THERBY ALIGNING THE FINANCIAL INCENTIVES OF THE MANAGERS USING THE RESOURCES WISELY.WHILE CALCULATING THE COST OF PRODUCT,ONLY THE DIRECT COST OF MATERIAL MEETS THE CRITERIA OF THROUHPUT AND THE COST ON ALL OTHER RESOURCES ARE COMMITTED. THESE COMMITTED COSTS ARE CONSIDERED AS OPERATING COSTS.
- VARIABLE COSTING:-MEASURE THE COST OF PRODUCT OR SERVICE ACORDING TO THE RESOURCES USED TO PROVIDE IT.IT ONLY INCLUDES VARIABLE MANUFACTURING OVERHEAD AS APRODUCT COST THAT FLOW THROUGH THE MANUFACTURING PROCESS.

EXPALANATION OF METHODS

- ABSORPTION COSTING:-ALSO CALLED FULL COSTING INCLUDE BOTH VARIABLE AND FIXED MANUFACTURING OVERHEAD IN THE PRODUCT COSTS THAT FLOWS THROUGH THE MANUFACTURING ACCOUNT.

LIMITATION OF TRADITIONAL CSTING SYSTEM

- FOCUSING ONLY ON DIRECT MATERIAL AND LABOUR COSTS WHILE SUMMARISING ALL OTHER COSTS TO ONE OR MORE OVERHEAD POOL AND THEN THESE ARE ALLOCATED ARBITRARILY
- TRADITIONAL COSTING SYSTEM DOES NOT TAKE INTO CONSIDERATION DIFFERENTIATED PRODUCTS UTILIZE RESOURCES IN DIFFERENT PROPORTIONS.
- OVERHEAD NOW CONSTITUTE THE LARGEST SHARE OF COST(MORE THAN 50%) LEADING TO WRONG CALCULATION OF PRODUCT COST
- CREATES A BIAS TOWARD DIRECT LABOUR REDUCTION AS A COST REDUCTION METHODOLOGY RATHER THAN PRODUCTIVITY IMPROVEMENT.
- PROVIDE NO USEFUL INFORMATIOM FOR IDENTIFICATION OF PRODUCTIVITY IMPROVEMENT,

MEANING OF COST MGMT

- COST MGMT: IT IDENTIFIES AND COLLECTS MEASURES, CLASSIFIES AND REPORT INFORMATION THAT IS USEFUL TO THE MGMT IN DETERMINING THE COSTS OF PRODUCTS OR SERVICES,PLANNING,CONTROLLING AND DECISION MAKING.
- WIDE TERM INCLUDES BOTH COST AND MGMT ACCOUNTING
- INCLUDES COST CONTROL AND COST REDUCTION

FACTORS AFFECTING COST MGMT SYSTEM

- GLOBAL COMPETITION:HAS INCREASED THE DEMAND NOT ONLY FOR MORE COST INFORMATION BUT ALSO FOR MORE ACCURATE COST INFORMATION TO BECOME MORE COMPETITIVE IN CHANGING SCENRIO
- GROWTH OF SERVICE INDUSTRY:-AS THE SERVICE INDUSTRU HAS GROWING RAPIDLY,SO THE COMPETITIVENESS REQUIRE PROVIDING EXCELLENT SERVICE AT COMPETITIVE RATE. THE CHANGES IN THE SERVICE SECTOR REQUIRE DEMAND FOR ACCURATE COST INFORMATION AND INNOVATION TO HAVE EDGE OVER COMPETITION.
- ADVANCEMENT IN INFORMATION TECHNOLOGY HAS HELPED THE BUSINESS AND ORGANIZATION TO SAVE TIME AND COST.
- ADVANCEMENTIN MANUFACTRUING IIN ENVIRONMENT SYSTEM HAS NECEEIATED THE NEED OF MOVING FROM TRADITIONAL COSTING SYSTEM TO MORE INNOVATIVE COST INFORMATION SYSTEM

FACTORS AFFECTING COST MGMT SYSTEM

- LIMITATION OF TRADIONAL COSTING SYSTEM HAS GIVEN BIRTH TO ACTIVITY BASED COSTING/TARGET COSTING ETC
- TOTAL QUALITY MGMT HAS DIVIDED THE COST INTO TWO CATEGORIES:-

I. QUALITY CONTROL COST

II. QUALITY FAILURE COST

- COST IS CRITICAL MEASURE OF EFFICIENCY. IMPROVING EFFICIENCY IS ALSO A VITAL CONCERN. BOTH FINANCIAL AND NON FINANCIAL MEASURE OF EFFICIENCY ARE NEEDED.

NEW CONCEPTS AND IDEAS

- ***TRADITIONAL CONCEPTS***
  - OLD STYLE
  - DOMESTIC MARKET
  - COST ASCETAINMENT AND CONTROL
  - QUALITY CONTROL
  - CONVENTIONAL MGMT
  - COMPETITIVE ANALYSIS
  - VALUE ANALYSIS

- ***NEW IDEAS***
  - NEW STRATEGY
  - GLOBAL MARKET
  - TOTAL COST MGMT
  - TOTAL QUALITY MGMT
  - ACTIVITY BASED MANGEMENT
  - BENCH MARKING
  - TOTAL CUSTOMER SATISFACTION

Illustration 5.1 *ABZ* Co. Ltd. produces three products *A*, *B* and *Z* for which the standard cost and quantities per unit are as follows:

		Products		
		A	*B*	*Z*
Output (units)		10,000	20,000	30,000
Direct material per unit	₹	50	40	32
Direct labour per unit	₹	30	40	48
Labour hours per unit		3	4	5
Machine hours per unit		4	4	7
No. of purchase requisitions		600	900	1,000
No. of machine set-ups		120	130	150

Production overhead split by departments:

Department *X* -	₹12,00,000
Y -	₹15,00,000
Total	₹27,00,000

Department *X* is labour intensive and *Y* is machine intensive.
Total labour hours in Dept. *X* = 2,00,000; Total machine hours in Dept. *Y* = 5,00,000
Production overhead split by activity:

Receiving and inspection	₹14,00,000
Production scheduling/set-up	₹13,00,000
Total	27,00,000

No.of batches received/inspected — 2500
No.of batches for scheduling/set-up — 400

Required: Prepare cost statement under traditional absorption costing and activity based costing methods. Also compare the result of the two methods and give your comments.

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	A	B	Z
Output-	10,000 Units	20,000 Units	30,000 Units
D.Mat/Per Unit	₹50/-	₹40/-	₹32/-
D.Labour/Per Unit	₹30/-	₹40/-	₹48/-
Labour Hr/Per Unit	3 Hrs.	4 Hrs.	5 Hrs.
Machine Hr/Per Unit	4 Hr	4 Hr	7 Hrs.
No. of Purch Req.	600	900	1000
No. of Machine Setups	120	130	150

Traditional Method

Dep X (Labour Hr Rate) = $\frac{1200{,}000}{200{,}000}$ = ₹6/- Per Hr.

Dep Y (Machine Hr Rate) = $\frac{1500{,}000}{500{,}000}$ = ₹3/- Per Hr.

Activity Based Costing

Receiving & Inspection (Batch cost) = $\frac{1400{,}000}{250}$ = ₹5600/- Per Batch

A @ 600/10,000 = 33.60
B @ 900/20,000 = 25.60
Z @ 1000/30,000 = 18.67

Production (Per setup) = $\frac{1300{,}000}{400}$ = ₹3250/- Per Batch

A @ 120/10,000 = ₹39
B @ 130/20,000 = 21.125
Z @ 150/30,000 = 16.25

Department wise

27,00,000

X: 12,00,000/- Labour 2,00,000 Hr.
Y: 15,00,000/- Machine 5,00,000 Hr

Activity wise

27,00,000

Receiving & Inspection: 14,00,000/- Batch = 2,500
Production: 13,00,000/- Setup = 400

	Traditional			Activity Based			
	A	B	Z		A	B	Z
Direct Mat	50.00	40.00	32.00	Direct mat	50.00	40.00	32.00
Direct Lab	30.00	40.00	48.00	Direct Lab	30.00	40.00	48.00
Dept X (6/-)	18.00	24.00	30.00	Receiving Inspection	33.60	25.60	18.67
Dept Y (3/-)	12.00	12.00	21.00	Production	39.00	21.13	16.25
	110.00	116.00	131.00		152.60	126.73	114.92

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