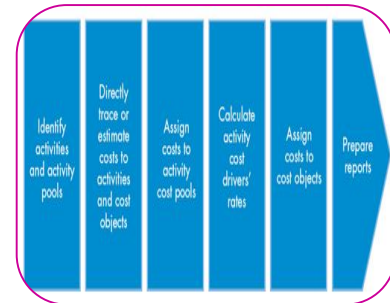




A MODERN COSTING TECHNIQUE: ACTIVITY BASED COSTING(ABC)

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ABSTRACT

In two main dimension of cost management, i.e. Cost Reduction and Cost Control, Pricing of a product plays vital role. To determine selling price, one has to first of all find out cost per unit with precise accuracy. Traditional costing system fails to determine cost per unit with accuracy due to method of apportionment of overhead cost on each product. Generally variable cost which is also known as a Product cost can be apportioned per product. But problems of apportionment per unit arise in case of fixed costs, which is also known as period cost. These costs like salary, rent, advisement etc can be allocated on the basis of period. So their per product apportionment is not accurate. To overcome such problem, one modern system of apportionment of overhead is arises which is known as "Activity Based costing". Against traditional costing method, activity based costing divides whole production process in different activity and apportioned the overhead per activities of production.

KEYWORDS: Traditional costing system , rent, advisement.

CONCEPT WITH FUNNY EXAMPLE:

Once upon a time three friends A,B and C went for dinner at restaurant. They ordered for 5 pizzas. Total bill was rs.300 which is equally incurred by three friends. Mr. A eats only 1 pizza, still he has to pay Rs.100, whereas B and C eats 2 pizzas, and they paid Rs.100 each. Next time they decided to contribute per pizza Rs 60. Now total bill of Rs.300 is divided into A, B and C in Rs.60, Rs.120 and Rs.120 respectively. This time they used activity based costing system.

INTRODUCTION TO ACTIVITY BASED COSTING:

"Cost" of a product means the expenses incurred to produce the product. Traditional costing system divides cost mainly in two category ,product cost and period cost. Product cost are the direct variable costs like material, labour , direct expenses etc. which can be apportioned per product or can directly be allocated to the unit of a product. Another category of cost is fixed cost which is also known as period costs like salary; rent, electricity, depreciation on machine, supervisor charges etc which cannot be directly allocated to the product. So traditional costing system absorbs the cost on the basis of direct labour or machine hours. Because traditional costing believes that the product that take longer to make, consume the more overheads.

Contrary to that, Activity based costing absorbs the overheads on the basis of each activity of production. It divides the whole production process in different activities and absorbs cost per each activity. Activity based costing is an accounting methodology that assigns cost to activities rather than production or services. This enables resources and overhead costs to be more accurately assigned to product and services that consumes it.

DEFINITIONS OF CERTAIN TERMS:

“Activity Based Costing”: According to CIMA “Activity based costing is an approach to the costing and monitoring of activities which involves tracing resources consumption and costing final outputs. Resources are assigned to activities, and activities to cost objects based on consumption estimates. The latter utilize cost drivers to attach activity cost to output.

“ Activity based costing is a technique which identifies cost driving activities and their cost and use it as a basis for distribution of cost over different cost objects or consumers or services.”

“Cost Object”: It is a item, product or services for which cost determination is required.

“Cost Driver”: Cost driver is a factor or activity due to which change in cost of activity occurs. It has direct cause and effect relationship with cost object. There are two type of cost drives which are resource cost driver and activity cost driver.

“Activity”: Activity refers to an event that incurs cost. Here we will say it as “Activity cost pools”.

Some examples of activity and their cost drivers:

Activity Cost Pools	Related Cost Drives
Ordering and receiving material cost	Number of purchase order
Setting up machine cost	Number of set-ups
Assembling Cost	Number of part
Supervision Cost	Direct labour hours
Selling cost	Number of units sold
Inspecting and testing cost	Number of tests

Stages in Activity based Costing:

1. First of all,we have to identify all the activities which incures the cost. Whole production process is divided into various activities. Number of activities depends on the size and nature of production. We should identify thoes activities for which cost drivers can be identified.
2. Assigning cost to cost pool for each activity both support and primary activities that caused them.
3. Support activities are allocated to the main or primary activities on suitable bases.
4. Determine cost drivers for each activity. The cost driver is a variable, which determines the work load of each activity.
5. Find out cost driver rate by dividing the total cost of each activity by the cost driver of respective activity.
6. The activity cost driver rate will be multiplied by the different amounts of each activity that each cost object consumes.

Benefits of Activity Based Costing:

1. It can lead to a most accurate pricing or costing of a product or service.
2. ABC is useful to get better idea about overhead costs.
3. Cost reduction and cost control is possible through activity based costing.
4. ABC utilises not only total cost but also unit cost.
5. Waste and non value added can be visible through ABC.
6. ABC facilitates Benchmarking.
7. ABC integrates well with Six Sigma and other continious improvement programs.

Practicle example of implimentation of Activity Based Costing:

Details of the four products and relevant information are given below for one period:

Product	P	Q	R	S
Output in units	150	120	60	90
Cost per Units	Rs.	Rs.	Rs.	Rs.
Direct material	50	60	40	80
Direct labour	32	24	18	20
Machine Hours (per unit)	5	4	3	2

The four products are similar and are usually produced in production runs of 15 units and sold in batches of 10 units.

The production overhead is currently absorbed by using a machine hour rate, and the total of the production over head has been analysed as follows:

Machine department costs (rent, Business, rates, depreciation and Supervision)	18,960
Set-up costs	5,600
Stores receiving	4,000
Inspection/quality control	1,620
Material handling and dispatch	7,980

You have identified 'cost drivers'to be used are as listed below for the overhead costs shown:

Cost	Cost Driver
Set-up costs	Number of production runs
Stores receiving	Requisitions raised
Inspection/quality control	Number of production runs
Materials handling and dispatch	Orders executed

The number of requisitions raised on the stores was 20 for each product and the number of orders executed was 42, each order being for a batch of 10 of a product.

In this problem lets find out cost per unit by both Traditional costing and Activity Based Costing system.

We first calculate the Overhead Recovery Rate on machine hour basis

Machine Hr absorption rate=Total overhead/ Total machine hours

Total Overheads= 18,960 + 5,600 + 4,000 + 1,620 + 7,980 = 38,160

Total Machine Hours

	Unis	Machine hours (per unit)	Hrs
P	150	5	750
Q	120	4	480
R	60	3	180
S	90	2	180
			1,590

Thus Overhead Recovery Rate = 38,160/1,590 hrs. = 24 per machine hour Total costs based on machine hour basis

	P	Q	R	S
Direct material	50.00	60.00	40.00	80.00
Direct labour	32.00	24.00	18.00	20.00
Production overhead	120.00	96.00	72.00	48.00
Production cost/unit	202.00	180.00	130.00	148.00
Out put in units	150	120	60	90
Total production cost	30,300	21,600	7,800	13,320

(a) Overheads absorbed based on ABC

Overhead costs	Level of activity	Activity Driver	Cost/activity
Machine department costs	18,960	1,590	11.92/hour
Set-up costs	5,600	28*	200/run
Stores receiving costs	4,000	80**	50/requisition
Inspection/quality costs	1,620	28*	57.86/run
Material handling and dispatch	7,980	42	190 /order

Workings

*No. of production runs = units/15 = 150+120+60+90/15 = 420/15 = 28

**No. of requisitions raised = No. of products × 20 = 4 × 20 = 80

	P	Q	R	S
Direct materials	50.00	60.00	40.00	80.00
Direct labour	32.00	24.00	18.00	20.00
Machine dept costs [Note (a)]	59.60	47.68	35.76	23.84
Set-up costs [Note (b)]	13.33	13.33	13.33	13.33
Stores receiving [Note (c)]	6.67	8.33	16.67	3.86
Inspection [Note (d)]	3.86	3.86	3.86	13.33
Material handling [Note (e)]				11.11
Production cost/unit				3.86
Output in units				
Total production costs				
	19.00	19.00	19.00	19.00
	184.46	176.20	146.62	171.14
	150	120	60	90
	27,669	21,144	8,797	15,403

	P	Q	R	S
Note (a)	(5 hrs × 11.92)	(4 hrs × 11.92)	(3 hrs × 11.92)	(2 hrs × 11.92)
Note (b)	(200 / 15 units)	(200 / 15 units)	(200 / 15 units)	(200 / 150 units)
Note (c)	(50x20/150 units)	(50x20/120 units)	(50x20/60 units)	(50x20/90 units)
Note (d)	(57.86/15units)	(57.86/15 units)	(57.86/15 units)	(57.86/15 units)
Note (e)	(`190/10 units)	(`190/10 units)	(`190/10 units)	(`190/10 units)

(a) Comparison of the two unit costs calculated in (a) and (b) above.

Product	P	Q	R	S
Based on machine				
Hour rate	202.00	180.00	130.00	148.00
ABC method	184.46	176.20	146.62	171.14
Difference	17.54	3.80	(16.62)	(23.14)

Thus we find that there is a substantial difference in the product cost under the traditional and ABC methods. If the company were to apply a constant margin to cost price in order to determine the selling price, we find that P and Q would be priced higher than the ABC determined rate and R and S would be underpriced.

CONCLUSION:

One can apply a modern costing system called activity based costing for cost reduction program and for better pricing. In India still companies use traditional system to absorb overheads. In this competitive market and world it is very important to adopt this type of modern technique. **It will help in finding out wastage and non value added activities. It can be a better decision making tool for the top level management.**