COST ACCOUNTING

CHAPTER- 9 - SERVICE COSTING (TRANSPORT COSTING)

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Meaning of Service Costing

Service costing, also known as Operating Costing is a method of cost ascertainment used in those undertakings which provide services. Example, transport companies, electricity companies, hospitals, cinema houses, schools, colleges etc. use service costing to find out cost per unit.

According to CIMA, London, "Operating costing is that form of operation costing which applies where standardized services are rendered either by an undertaking or by a service centre within an organization."

Characteristics of Service Costing

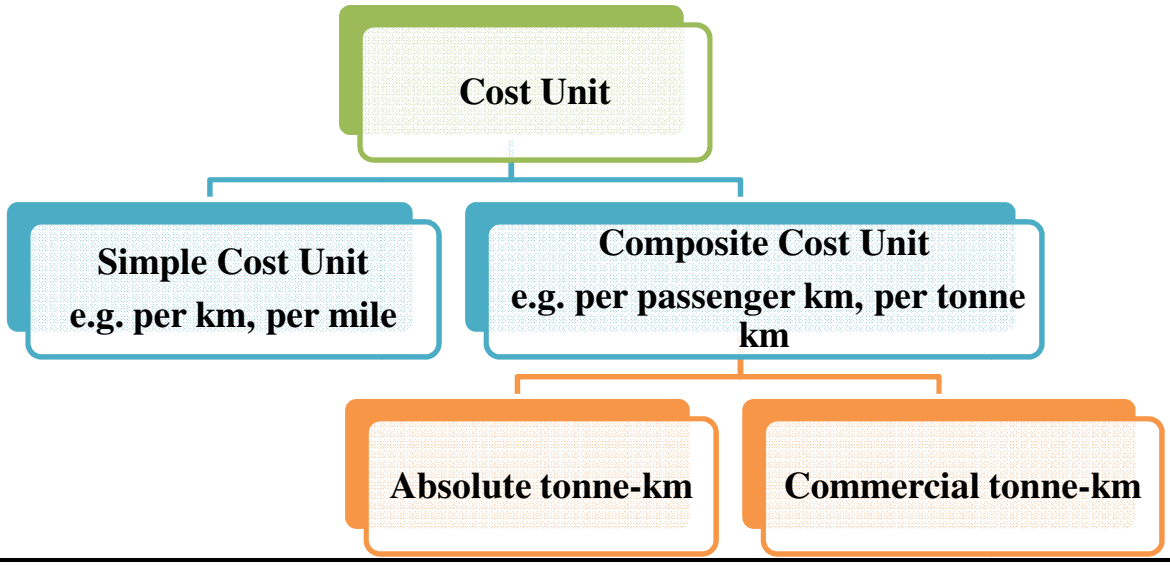
1. Services provided are standardized i.e. similar type of services are provided to all customers.
2. Services are produced on a uninterrupted/regular basis.
3. Capital is invested more in fixed assets (e.g. buying buses for a transport company) in comparison to investment in working capital (e.g. day-to-day expenses in running buses).
4. Some part of operating costs of these undertakings is fixed cost and the other part is the variable cost.

Meaning of Transport Costing

Transport Costing is a type of service costing which is employed in transport undertakings. The basic objectives of transport costing are:

1. To determine the cost of carrying passengers or goods.
2. To determine the price/freight/fare to be charged from users of such service.
3. To help the management in decision-making.

Determination of Cost Unit in Transport Costing



Absolute tonne-km: cost units between two stations are separately calculated in tonnes kms and then totalled up.

Commercial tonne-km: the trip is considered as a whole and cost units are calculated by multiplying total distance in km by average load quantity.

Format of Operating Cost Sheet of a Transport Company

Specimen Operating Cost Sheet

Vehicle No..... Period.....

Cost unit..... No. of cost units.....

	Total ₹	Per km. ₹
Fixed Costs (or Standing charges)		
Garage Rent		
Road Tax		
Insurance		
Manager's Salary		
Office expenses		
Interest on Capital		
Driver's wages		
Total (A)		
Variable (Running) Costs		
Depreciation		
Petrol or diesel		
Lubricating oil		
Repairs and Maintenance		
Tyres and tubes		
Total (B)		
Grand Total (A +B)		

Solved Examples

Question 1.

From the following information, calculate (*i*) total kilomeres, and (*ii*) total passenger kilometres.

No. of buses	4
Days operated in a month	30
Trips made by each bus	2
Distance of route	100 km (one side)
Capacity of each bus	40 passengers
Average passengers travelling	75 % of capacity.

Solution:

(i) Total Kms:

4 X 30 X 2 X 100 = 48,000 kms

(we will multiply first four factors as 4 buses operate for 30 days for 2 trips each for every trip of 100 kms. This is the example of simple cost unit)

(ii) Total Passenger Kms:

48,000 X (40 X 75%) = 14,40,000 passenger kms

(we will multiply total kms calculated above with the no. of passengers actually travelling. This is the example of composite cost unit)

Question 2.

A transport company, is running a fleet of six buses between two towns 75 km apart. Seating capacity of each bus is 40 passengers. The following particulars are available for the month of Nov. 2017.

	₹		₹
Wages of drivers, conductors and cleaners	3,600	Taxation, insurance, etc.	2,400
Salaries of office and other staff	1,500	Depreciation	3,900
Diesel and other oils	10,320	Interest on capital	3,000
Repairs and maintenance	1,200		

Actual passengers carried were 80 per cent of the seating capacity. All the buses ran on all days of the month. Each bus made one round trip per day.

Find out the cost per passenger-kilometre. (*B. Com., Bangalore*)

Solution:

First of all, calculate total passenger kms:

6 buses X 75 kms distance each side X 2 (coming and going i.e. round trip) X 30 days in a month X (40 X 80%) (actual passengers travelling)

= 8,64,000 passenger kms

Now, we will make an Operating Cost Sheet to calculate total cost of the transport company:

Operating Cost Sheet

for the month for November, 2017

Passenger-Kms = 8,64,000

	₹	₹
Fixed Costs:		
Wages of drivers, conductors, cleaners	3,600	
Salaries of office and other staff	1,500	
Taxation, insurance etc.	2,400	
Interest on Capital	3,000	10,500
Variable Costs:		
Diesel and other oils	10,320	
Repairs and maintenance	1,200	
Depreciation	3,900	15,420
Total Costs		**25,920**

Cost per passenger kms = Total Cost / Total passenger-kms

= ₹ 25,920 / 8,64000

= ₹ 0.03 or 3 paise per passenger-kms

Question 3.

Union Transport Company supplies the following details in respect of a truck of 5-tonne capacity :

Cost of truck	₹ 90,000
Estimated life	10 years
Diesel, oil, grease	₹ 15 per trip each way
Repairs and maintenance	₹ 500 per month
Cleaner's wages	₹ 250 per month
Driver's wages	₹ 500 per month
Insurance	₹ 4,800 per year
Tax	₹ 2,400 per year
General supervision charges	₹ 4,800 per year

The truck carries goods to and from city covering a distance of 50 miles each way.

While going to the city, freight is available to the extent of full capacity and on return 20% of capacity.

Assuming that the truck run on an average 25 days a month, work out —

(*i*) Operating cost per tonne-mile, and

(*ii*) Rate per trip that the company should charge if profit of 50% on freightage is to be earned.

Solution:

First of all, calculate total tonne-miles:

1 Truck **X 25** working days **X** [(**50** miles X **5**tonne)(while going) **+** (**50** miles X **1**tonne)(while coming back, freight is available for only 20% capacity i.e. (5X 20%))]

= 7,500 tonne-miles

Now, we will make an Operating Cost Sheet to calculate total cost of the transport company:

Operating Cost Sheet

for the month of.....

Tonne-miles = 7,500

	₹	₹
Fixed Costs:		
Cleaner's Wages	250	
Driver's Wages	500	

Insurance (4,800 / 12)	400	
Tax (2,400 / 12)	200	
Gen Sup Charges (4,800 / 12)	400	1,750
Variable Costs:		
Diesel, oil, grease (15 X 2 X 25)	750	
Repairs and maintenance	500	
Depreciation [90,000 X (1/10) X (1/12)]	750	2,000
Total Costs		**3,750**

(i) Operating Cost per Tonne-mile = Total Cost / Total Tonne-miles

= ₹ 3,750 / 7,500

= ₹ 0.50 or 50 paise per tonne-mile

(ii) Rate per trip to be charged by the company:

(Freightage means cost plus profit; just like selling price)

So, Cost per tonne-mile = ₹ 0.50

Profit per tonne-mile = ₹ 0.50 (profit is 50 % on freightage that means 100 % on cost)

Thus, Freight rate per tonne-mile = ₹ 1 (by adding cost and profit)

Now, we will calculate total tonne-miles in one trip:

(50 X 5) + (50 X 1) = 300 tonne-miles

So, Freight rate per trip both ways = ₹ 1 X 300 tonne-miles

= ₹ 300

Reference Book Used:

Cost Accounting by CMA M N Arora & Priyanka Katyal

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