

Strategic Management Accounting

Tutorial 2

Question 1

Smiles Ltd. is a medium scale toothpaste manufacturer who makes two different types of toothpastes in the same factory using same equipment. The two types of toothpastes are Smile White (SW) and Smile Herbal (SH). The annual production overhead of Rs. 10,560,000 has been analysed over five activities as follows;

Activity	Activity cost pool (Rs.)
Machinery depreciation	2,500,000
Indirect Raw materials purchase	3,200,000
Set-ups	1,060,000
Quality control	2,000,000
Production scheduling	1,800,000
Total costs	10,560,000

During the year, Smiles Ltd. has planned to make 300,000 units of SW and 150,000 units of SH. SW requires one hour of machine time per unit while SH requires one hour and 20 minutes of machine time per unit in the production line.

The direct costs incurred for two products are as follows;

	SW (Rs.)	SH (Rs.)
Direct labour	13	15
Direct materials	20	25
Total cost	33	40

Further, the annual cost drivers for the two products are given below.

Cost Driver	Total	Number of each cost driver	
		SW	SH
Production runs	3,600	2,600	1,000
Purchase orders	3,200	2,400	800
Set-ups	4,000	3,000	1,000
Machine hours	500,000	300,000	200,000
Quality checks	5,000	3,500	1,500

Required:

- (i) **Calculate** the total cost of the two products using absorption costing method if overheads are absorbed based on the machine hours.
- (ii) **Calculate** the total cost of the two products using Activity Based Costing (ABC) method
- (iii) **Discuss** the advantages of using ABC over absorption costing.

Question 2

Triple Limited makes three types of gold watches – the Diva (D), the Classic (C) and the Poser (P). A traditional product costing system is used at present; although an Activity Based Costing (ABC) system is being considered. Details of the three products for a typical period are:

Production Units	Hours per unit		Materials
	Labour hours	Machine hours	Cost per unit (Rs.)
Product D - 750	0.5	1.5	20
Product C - 1250	1.5	1.0	12
Product P - 7,000	01	03	25

Direct labor costs Rs.6 per hour and production overheads are absorbed on a machine hour basis. The overhead absorption rate for the period is Rs.28 per machine hour.

Required:

- (a) Calculate the cost per unit for each product using traditional methods, absorbing overheads on the basis of machine hours.

Total production overheads are Rs.654,500 and further analysis shows that the total production overheads can be divided as follows:

	%
Costs relating to set-ups	35
Costs relating to machinery	20
Costs relating to materials handling	15
Costs relating to inspection	<u>30</u>
Total production overhead	100

The following total activity volumes are associated with each product line for the period as a whole:

	Number of Set ups	Number of movements of materials	Number of inspections
Product D	75	12	150
Product C	115	21	180
Product P	480	87	670
	670	120	1000

Required:

- Calculate the cost per unit for each product using ABC principles (work to two decimal places).
- Explain why costs per unit calculated under ABC are often very different to costs per unit calculated under more traditional methods. Use the information from Triple Limited to illustrate.
- Discuss the implications of a switch to ABC on pricing and profitability.

Question 3

Grapeville Estate produces two types of wine. The first is a Standard Chardonnay (StdC) produced in large batches and aged for a relatively short period of time (about four months) in large metal containers. The second wine is a limited edition Vintage Cabernet (VinC) made in very small batches from premium grapes and then aged for more than three years in special French oak barrels to provide a particular taste. The barrels require significant maintenance between batches and can be used only a few times before they lose some of the oak flavour that they transfer to the wine.

The Company currently uses a volume based cost system with total manufacturing overhead cost of Rs 3,750,000 per annum applied to the two products at the rate of 150 per cent of direct labour cost.

Assume the following production cost information for the most recent year.

	Standard Chardonnay (StdC)	Vintage Cabernet (VinC)
Number of bottles produced	200,000	25,000
Unit cost information		
Direct materials (for grapes and bottles) (Rs)	20	40
Direct labour (Rs)	10	20
Manufacturing overhead (Rs)	?	?
Manufacturing cost per unit (Rs)	?	?

The company has conducted an Activity Based Costing (ABC) analysis and traced the manufacturing overhead cost to four activity pools, with the following cost and drivers.

Activity	Total Cost (Rs)
Purchasing and receiving materials (grapes)	900,000
Setting up to produce a new batch of wine	1,000,000
Fermenting and aging wine in barrels	800,000
Inspecting the wine for quality control	1,050,000
	3,750,000

The activities required by the two products are as follows.

	Standard Chardonnay (StdC)	Vintage Cabernet (VinC)
Kilo grams of grapes	400,000	50,000
Number of batches	200	200
Number of fermentation days	30,000	170,000
Number of inspections	2,000	18,000

Required:

A. Compute the manufacturing cost per bottle using;

- (i) Volume based costing system
- (ii) ABC system

B. Discuss two reasons for the cost difference between the two systems with reference to your answers in Part (a).

C. Even though ABC method provides relatively accurate cost information, research conducted in the Europe (e.g. Drury & Tayles, 2005; Clarke, 1992) indicates that the application of ABC method as a tool of absorbing overhead cost remains at a relatively lower level (e.g. 15% in UK and 10% in Ireland). Further, the findings of these studies indicate the level of application of ABC method varies among different firms (Drury, 2007).

Discuss the above statements with reasons.