

PRATICAL EXERCISES N°2

MAINTENANCE COSTS

Reminder:

$$\text{Result} = \text{Turnover} - (\text{Variable charges} + \text{Fixed charges})$$

$$\text{Margin on variable costs} = \text{Turnover} - \text{Variable costs.}$$

$$\text{Result} = \text{MCV} - \text{Fixed charges}$$

$$\text{Variable cost rate} = (\text{Variable cost} / \text{Turnover}) \times 100$$

$$\text{Margin rate on variable costs} = (\text{Margin on variable costs} / \text{Turnover}) \times 100$$

$$\text{Profitability threshold} = (\text{Fixed costs} \times \text{Turnover}) / \text{Margin on variable costs}$$

$$\text{Or} = \text{fixed costs} / \text{Margin rate on variable costs}$$

$$\text{Safety Margin} = \text{Turnover} - \text{Profitability Threshold}$$

$$\text{Security Index} = ((\text{Turnover} - \text{Security Threshold}) / \text{Turnover}) \times 100$$

Exercise No. 1:

In a company there are three levels of activity: 4,000, 5,000, 6,000 units produced. Variable charges per unit are 9.5 Da. Total fixed charges amount to 36,000 Da for each level of activity.

Evaluate, for each level of activity:

1. The total variable cost,
2. The unit fixed cost
3. The total cost
4. The average cost.
5. Analyze and comment on the results obtained.

Exercise No. 2:

A company manufactures two products A and B, the company manufactures to order, so there is no stock of finished products. The chief accountant brings to your attention the following information from February 2012.

1. Production of the month:
 - Product A: 6,500 units / Product B: 4,500 units
 2. Consumption of raw materials for the month:
 - Raw materials 70,000 da for product A and 100,000 for product B
 3. MOD Loads
 - 1020 h at 65 da/h for product A. / 980 h at 65 da/h for product B.
 4. Indirect Charges:
 - Workshop costs: 160,000 da (including 57,000 fixed charges)

These charges are distributed between the two products in proportion to the number of MOD hours.

 - Distribution costs: in proportion to the sales amounts, they are in the ratio 0.8 per 100.
 5. Sales of the month:
 - Product A: 35 da/unit / Product B: 55 da/unit
- A. Calculate the cost price and the analytical result of the two products A and B.
 B. Present the company's differential results table.
 C. Determine the break-even point.

Exercise No. 3: Consider the following situation of the company in 2019

Element	Amount	%
Turnover	5,000,000
Variable cost	3,200,000
Variable cost margin
Fixed price	1,080,000	
ResultFluent	

Unit selling price: 100 da

Work to do :

1. Complete the table?
2. Calculate the break-even point
3. Calculate and interpret the safety index.

SOLUTION #2**Exercise No. 1**

Element	Activity		
	4000	5000	6000
Unit variable charges	9.5	9.5	9.5
Total variable costs	38000	47500	57000
Total fixed costs	36000	36000	36000
Unit fixed charges	9.00	7.20	6.00
Total cost	74000	83500	93000
Average unit cost	18.5	16.7	15.5

Comment :

- Unit variable charges are fixed;
- Unit fixed charges are variable.

Exercise No. 2

1. The cost price of each product:

Elements	Product A	Product B
Turnover	$35 \times 6,500 = 227,500$	$55 \times 4,500 = 247,500$
Consumption of raw materials	70,000	100,000
MOD	$1020 \times 65 = 66,300$	$980 \times 65 = 63,700$
Total direct charges 1+2	136,300	163,700
Distribution charges	1,820	1,980
Cost price (I+II)	219,720	244,080
Result = CA-CR	7,780	3,420

2. The company's differential results table

Elements	ProductHAS	ProductB
Turnover	227500	247500
Variable figure	190650	216150
MCV	36850	31350
Fixed charges	29070	27930
Current result	7,780	3,420

3.Profitable level

- For products A
 $SR = (227,500 \times 29,070) / 36,850 = 179,468.7924$
- For products B
 $SR = (247,500 \times 27,930) / 31,350 = 220,500$

Exercise No. 3

Element	Amount	%
Turnover	5,000,000	100
Variable cost	3,200,000	64
Variable cost margin	1,800,000	36
Fixed price	1,080,000	
ResultFluent	720000	

2.Break-even point (SR) = $1,080,000 / 0.36 = 3,000,000$ da

3.Security index = $(5,000,000 - 3,000,000) / 5,000,000 \times 100 = 40\%$

The company can reduce its turnover by 40% without suffering a loss