

**Example 1**

The company Clean operates in the field of cleaning services. Its performance is therefore one square meter (m<sup>2</sup>) of cleaned area. The company records the following costs:

- consumption of cleaning agents
- consumption of mops, buckets, towels
- labour costs of cleaners
- salary costs of top management (managers, assistants)
- office space rent
- depreciation of washing equipment
- washing machine depreciation
- car depreciation
- travel expenses
- telephones, postage
- marketing costs
- accounting, IT costs

**Example 2**

The production company has the following data on its performance:

1. total fixed costs 15 000, - CZK,
2. variable costs per unit of production 10, - CZK,
3. total production of 500 pcs.

**TASK:**

- 1) Calculate the total variable costs of production.
- 2) Calculate the fixed cost per unit of production.
- 3) Calculate the total cost of production.
- 4) Calculate the average total cost of production.

**Example 2**

The manufacturing company has the following production data for its product:

1. total fixed costs CZK 40,000
2. Total variable costs 30 000 CZK
3. price of 1 product 40 CZK
4. quantity produced - capacity 2 000 pcs
5. planned production range 1 700 pcs

**Calculate:**

- (1) production volume for break-even point;
- 2) single (absolute) margin,
- 3) contribution to sales,
- 4) Reversal turnover

5) margin of safety.

**Example 3**

The total amount of fixed costs in a textile company is CZK 5 434 610 in a certain period. The optimum production range that can be ensured by the existing capacity is 9 520 000 meters of fabric. However, only 8 436 614 meters of fabric were produced in the last reporting period.

- 1) How much of the fixed cost remained unused?
- 2) How has the size of unit fixed costs changed?

**Example 4**

The maximum annual volume of production (production, output) of CZK 125 000 can be assured at the expense of annual fixed costs of CZK 2 400 000. During the period under review, the production capacity was used only at 95 %.

- 1) Identify free (unused) fixed costs
- 2) Find out how unit fixed cost has changed

**Example 5**

| Item  | Total for 500 000 pieces | Per piece |
|---|--------------------------|-----------|
| material  | 3 000 000 CZK            | 6 CZK     |
| wages   | 1 000 000 CZK            | 2 CZK     |
| production overheads (depreciation, service and management, energy, repairs and maintenance, overhead material) | 4 000 000 CZK            | 8 CZK     |
| total   | 8 000 000 CZK            | 16 CZK    |

Of the total of 4000,000 crowns of production overhead costs, 3 000 000 crowns are fixed costs and variable overhead costs are 2 crowns per piece.

Tasks:

1. Calculate how much would a manager recalculate when making a decision if he / she would consider that the total cost would be CZK 4 800 000 (CZK 16 \* 300 000) if the capacity utilization was reduced to 300 000?
2. Explain why this difference was caused.

**Example 6**

Drink, a.s. produces and sells fruit lemonade, which it distributes through a single chain. Although lemonades differ in flavor, they are comparable in terms of selling price, variable costs and capacity requirements. Selling price of one liter is 10 CZK, variable costs 4 CZK. The total amount of fixed costs is CZK 2 400 000 per month. The planned production volume for April 2019 is 1 000 000 liters.

Tasks:

1. Determine your performance margin and revenue contribution
2. Find out your planned profit for April 2019
3. Determine the break-even point in pieces and value (CZK)

### **Example 7**

Suppose an enterprise produces two products, A and B. The price of A is 30 CZK, the price of B is 15 CZK. The average (full) cost of product A was CZK 25 in the previous period and product B was CZK 16. Further expansion of product A is not possible and at the same time it is not realistic in the near future that the loss-making product B would be replaced by another product.

In the past period 10 000 pieces of product A, 20 000 with product B were produced. The cost analysis showed that the variable costs of product A are 20 CZK, product B 13 CZK, the total fixed costs that ensure the production of A and B are 110 000 CZK.

Tasks:

1. Decide whether products A and B are profitable or not?
2. If a product is loss making, decide whether it is worth stopping or reducing the production of such loss making product.

### **Example 8**

The company evaluates two variants of production for next year. Which option is more favorable for the company? Determine which costs are relevant and irrelevant to the decision. Compare variants by relevant costs and benefits.

| Item                     | Original variant | New variant |
|--------------------------|------------------|-------------|
| Material                 | 5 000 CZK        | 5 000 CZK   |
| Wages                    | 1 500 CZK        | 900 CZK     |
| Depreciation of products | 0 CZK            | 300 CZK     |
| Manufacturing overhead   | 4 000 CZK        | 4 500 CZK   |
| Revenue                  | 10 000 CZK       | 10 000 CZK  |

**Example 9**

The company wants to invest in modernizing the production process, which will, among other things, increase the number of products produced and reduce the level of direct wages. Calculate the difference cost and describe how modernizing the production process will affect the company's performance.

| Item                          | Original costs | Changes costs |
|-------------------------------|----------------|---------------|
| Volume of production          | 100 CZK        | 130 CZK       |
| Price per piece               | 120 CZK        | 120 CZK       |
| Direct personnel costs        | 1 500 CZK      | 1 000 CZK     |
| Direct production consumption | 5 000 CZK      | 6 500 CZK     |
| Manufacturing overhead        | 4 000 CZK      | 4 500 CZK     |

**Example 10**

The office furniture company reports the following summary information about a specified part of its business - a particular set of furniture:

|                          |                |
|--------------------------|----------------|
| Sales (1 000 units sold) | 18 000 000 CZK |
| Total cost               | 16 000 000 CZK |
| Profit                   | ?              |

The company offers the opportunity to equip this furniture in the amount of 100 sets of new customer building. However, it requires a maximum set price of 15,000 CZK, which is below the current average cost of the set.

Of the current CZK 16,000,000, a total of CZK 10,000,000 is spent on consumables, unit personnel costs, unit energy consumption and variable production overhead costs.

Another CZK 2,500,000 is depreciation of production equipment intended for the production of these sets. This production facility is currently almost used in capacity.

Another CZK 500,000 is depreciation of costs for development and technical preparation of production.

Another CZK 2,000,000 is the masters' personnel costs and other avoidable fixed costs. A one-off increase in capacity can be expected to increase by 5% (CZK 100,000).

The last CZK 1,000,000 is corporate administrative overhead, which will not affect the increase in production capacity.

- Does the company clearly refuse the contract or does it need additional information to decide?