

Al Farabi University

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Theme Activity-Based Costing, 2
Management Department

"Cost Management" Course
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- 3) Collect costs for each medium into cost groups by type of activity. For example, the cost group for the cost of a distribution channel will include advertising and warehousing costs associated with this channel.
- 4) Determine the factors that determine the amount of costs by type of activity, they are called carriers (or drivers) of costs.
- Cost drives are any factor that affects the amount of costs for a particular type of activity. Any type of activity may have many cost drivers associated with it and, thus, affect the amount of resources required

| Expenses | Cost Objects |
|------------------------------|-----------------------------|
| Purchase cost | The number of orders |
| Order fulfillment cost | Number of orders |
| Cost of materials processing | Number of production cycles |
| Production scheduling cost | Number of production cycles |
| Cost of dispatch service | Number of submissions |

- 5) Calculate the cost driver ratio by dividing the total overhead costs in each cost pool by the total cost drivers. For example, the total material handling cost is divided by the total number of production runs to obtain the material handling cost driver ratio.
- This coefficient is used when calculating costs by activity to calculate the amount of overhead and indirect costs. For costs that depend on the level of production, volume-related cost units such as machine hours and man hours are used. For example, the cost of oil used as lubricants for a machine tool will end up being added to the cost of production based on machine hours, since the oil will be used every hour of the production cycle.
- Overhead costs associated with organizing and managing production vary with the type of activity, not the volume of production. Therefore, they should be tracked by such media as the production cycle or the number of orders received.

- 6) Calculation and cost accounting. Multiply the driver coefficient by the number of cost drivers.
- 7) Formulate reports. The results of the ABC system are converted into reports for management analysis. For example, if the system was originally designed to accumulate information about overhead costs by geographic sales region, then the revenue generated in each region, all direct costs, and overhead expenses received from the ABC system should be reported. This will give management a complete understanding of the costs and results achieved in each region.

- 8) Management actions based on the information received. The most common management response to the ABC statement is to reduce the number of activity factors used by each cost object. This should reduce the amount of overhead used.
- Also, from the reports, managers can see which operating factors need to be reduced in order to reduce the corresponding amount of overhead costs. For example, if the cost per purchase order is \$1,000 based on employee time spent, managers may focus on allowing the production system to automatically place orders or scheduling less frequent orders as options to reduce purchasing costs. Either solution will result in fewer orders and therefore lower costs for the purchasing department.

Example of cost calculation using the ABC method Let's look at cost calculation using the ABC method using an example. Let's assume that the Alpha company produces 2 types of products (see Table 2). Table 2. Data for calculation

Products Machine hours **Unit Products** Number of Man-hours per Cost of production materials per per unit unit cycles in the unit. products period Х 20 10 2 1 V 100 5 80 3 3 Cost of 1 working hour = \$500. Forwarding cost = \$9100 Material processing cost = \$7,700 **Overheads:** Variable costs = \$3,100 **TOTAL:** Overhead = \$30,820 Commissioning cost = \$10,920

Let's calculate the cost per unit of production. First, let's determine what is the carrier of costs for the types of expenses indicated, that is, what affects the amount of costs (Table 3).

| Expenses | Expense amount | Cost carrier (driver) | Worked out for the period | Cost Driver Ratio |
|--------------------------|----------------|--|------------------------------|----------------------|
| Variable costs | 3100 | Machine hours (product units * machine hours per product) | 10 * 1 + 100 * 3 = 310 | 3100 / 310 = 10 |
| Commissioning cost | 10920 | Number of production cycles | 2 + 5 = 7 | 10 920 / 7 = 1560 |
| Forwarding cost | 9100 | Number of production cycles | 2 + 5 = 7 | 9100 / 7 = 1300 |
| Material processing cost | 7700 | Number of production cycles | 2 + 5 = 7 | 7700 / 7 = 1100 |
| TOTAL: Overhead | 30820 | | | |

Table 3. Calculation of the cost driver coefficient

- At the same time, variable costs for small-scale production are, according to the conditions, 3,100 dollars. Let's calculate how many machine hours were used during the period. To do this, you need to multiply the units of production by machine hours per unit.
- We get 10 * 1 + 100 * 3 = 310 machine hours worked during the period under consideration.
- Now we find out the coefficient (driver) for the distribution of overhead costs per 1 machine hour: 3100 / 310 = \$100.

Table 4. Calculation of cost by product

| Types of expenses | Product X | Product U | total amount |
|--|-----------------------|---------------------------|--------------|
| Materials (product units * material costs per unit) | 10 * 20 = 200 | 100 * 80 = 8 000 | 8200 |
| Labor costs (unit of product * man-hours per unit * cost of working hour | 10 * 1* 500 = 5000 | 100 * 3 * 500= 150 000 | 155 000 |
| Variable costs (overhead driver factor * machine hours * units produced) | 10 * 1 * 10 = 100 | 10 * 3 * 100 = 3000 | 3100 |
| Commissioning cost (driver coefficient * number of production cycles) | 1560 * 2 = 3120 | 1560 * 5 =7 800 | 10 920 |
| Forwarding cost (driver coefficient * number of production cycles) | 1300 * 2 = 2600 | 1300 * 5 = 6500 | 9 100 |
| Material processing cost (driver coefficient * number of production cycles) | 1100 * 2 = 2200 | 1100 * 5 = 5500 | 7700 |
| TOTAL: Overhead | 13 220 | 180 800 | 194 020 |
| Units issued | 10 | 100 | |
| Cost per unit | 1322 | 1808 | |

Conclusion

The ABC system should be implemented if the additional information obtained as a result will help improve the profitability of the company.

ABC is applicable if:

- the company has high direct costs, which include the cost of raw materials and employee wages;
- wide choice of product range;
- overhead costs (costs of management and organization of production) vary significantly by type of product.
- Although the ABC method was originally used by manufacturing companies, it can equally well be applied to organizations in other areas of activity.