

## THE PRODUCTION COSTS AND CURRENT DIMENSIONS OF MANAGEMENT ACCOUNTING

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### Abstract

Romania's actual accounting system is used since 1994 and is made up of two major categories, namely financial and management accounting. Both of these are regulated by the Accounting Law no. 82/1991 and Regulation no. 704/1993. Financial accounting, also named general accounting, is mandatory for all patrimonial units and involves the collection of all company transactions, as well as their transformation into accounting information. The goal is to synthesize data and create annual financial statements. On the other hand, management accounting is the second section of the accounting system and is not mandatory. This one is developed by each enterprise in accordance with its specifics and needs. Calculating costs is one of the main objectives of management accounting. It is followed by the synthetization of the results, establishment of the products and services profitability, as well as by the making of income and expenditure budgets according to the types of activities. Finally, their execution control and data transmittance in order to establish decisions regarding unit management are developed. Cost accounting or analytical accounting is a way to establish an information system through which the costs of the products are known.

**Key words:** calculating costs, management accounting, Activity Based Costing

Financial accounting and management accounting are found in every economic enterprise that creates value. Financial accounting reflects the accounting facts that related to the company's performance, financial position, cash flow and management accounting reflects non-financial facts to that are useful in making managerial decisions (Dumitru M., Calu D.A., 2008).

Management accounting is based on the study of costs to improve managerial decisions related to the management of the economic enterprise (Costuleanu C.L., 2019).

Cost calculation establishes the sequence of calculations using appropriate techniques and procedures, combined with each other according to the economic accounting.

The calculation of costs represents a calculation of the past, present calculation or a predictive calculation, the difference being made by the nature and quality of the information provided to the decision-makers.

Important aspects that are considered when designing the cost calculation system are: the specifics of the company's activity and its operation strategy. The accounting has the role of adjusting strategic and operational objectives to lead to maximum activity efficiency (Cucui I., Man M., 2004).

One of the main concerns of costing theory is the creation of costing methods.

The classic calculation methods have received a series of criticisms, among which we mention: the use in the distribution of indirect expenses, common to the departments of bases chosen according to quantitative criteria.

In traditional accounting, direct expenses are included in the cost of products, according to the causal relationship and indirect expenses are distributed by product coefficients on cost centers.

The arguments that come in support of the ABC costing method are generally based on the superior quality of the information generated compared to that of traditional calculation methods (Brezuleanu S., 2009)

According to the theory of economic information optimization, the best information is related to the best decision made, and the best decision made increases the economic value of the company.

The ABC method aims to increase the degree of knowledge of the processes carried out within the entity by detailing them by activities, considered cost generators and the delegation of the decision to the employees at the lower level of the hierarchical pyramid, knowledgeable in detail of each specific operation. For this reason, they can

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make the best decision based on the information resulting from the current activity and a sequence of correct decisions can generate economic growth. The application of this method practically leads to a change in the employee's mentality by increasing their responsibilities and decision-making power (Budugan D. *et al.*, 2007).

According to the ABC method, expenses are allocated to activities, based on cost drivers and later included in the cost of products.

The representation of the differences between the traditional methods and the ABC method is presented in *figure 1*.

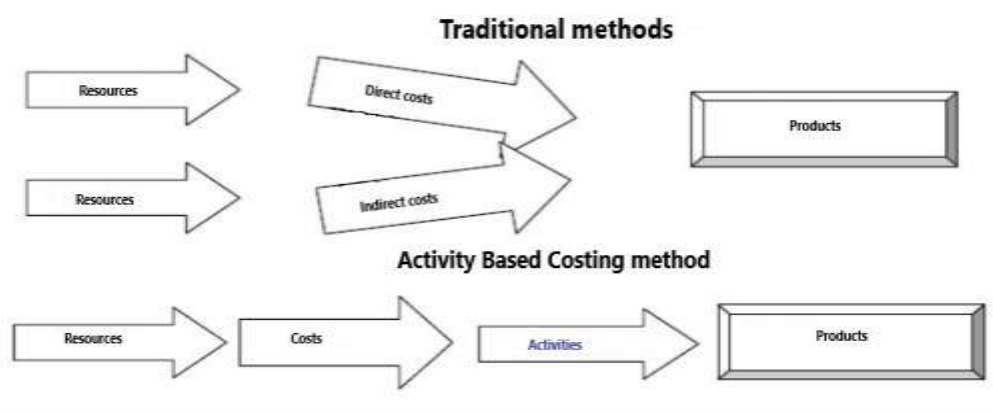


Figure 1 Representation of the differences between traditional methods and ABC method

## MATERIAL AND METHOD

The calculation of the production price by applying the ABC method involves the following steps (Caraiani C., Dumitrana M., 2010):

1. The primary distribution of expenses from financial accounting;
2. Application of the algorithm specific to ABC method:
  - 2.1 Identification of activities and related costs;
  - 2.2 Establishing cost drivers for each activity;
  - 2.3 Establishing of regrouping centers;
  - 2.4 Absorption of indirect cost;
3. Calculation of production cost;
4. Absorption of general administration and sales expenses;
5. Calculation of the full cost.

To reflect the particularities of the ABC calculation methods we collected financial and management data from Research - Development Station for viticulture and winemaking IASI and we calculated the production cost of white wines compared to production cost of red wines.

The cost differences between the two categories of wines are due their different manufacturing technologies, the different manufacturing time and the substances used to make the wine.

The production cost of wines can also be influenced by the amount of anthocyanins present in these two categories of grapes.

Red grapes contain a higher amount of anthocyanins that have an antioxidant characteristic of natural wine protection, so red wine need a lower amount of sulfur (legal max 150g/l) than white wines (egal max 200g/l).

Red wine compared to white wines, have a higher volatile acidity, so the amount of added bentonite is lower. Legally, the amount of bentonite accepted for red wines is between 0.4g/l-0.8g/l, and for white wines it is 0.6g/l-1.2g/l, but the exact doses is determined by laboratory tests. This difference resulting from bentonization has direct influences on the production costs of the two categories of wines.

To illustrate, we will create a study that aims to calculate production costs by applying the ABC calculation method for the amount of 1000 liters of red wine from the Merlot variety, harvest 2022, compared to the amount of 1000 liters of white wine from the Feteasca Regala variety, harvest 2022.

1. The primary allocation of expenses from financial accounting

Following the primary allocation of expenses from accounting, direct expenses are determined for each product.

Direct expenses for red wines = expenses with raw materials + expenses with consumables + expenses with direct salaries aplicatii = 6500 lei

Direct expenses for white wine = expenses with raw materials + expenses with consumables + expenses with direct salaries = 5700 lei

**Total direct costs = 6500 + 5700 = 12.200 lei**

2. Application of the ABC method

2.1. Identification of generating events and their specific costs.

After analyzing the way raw material is transformed into a finish product, we found the existence of three activity centers in the process of obtaining production by the entity:

a. The manufacturing launch activity which has the following costs: expenses with inventory item and expenses with services performed.

**Activity costs = 800 lei**

b. The processing activity that includes energy and water expenses.

**Activity costs = 650 lei**

c. The activity of operating the machines, which includes expenses for depreciation of the machines and expenses for maintenance and repairs.

**Activity costs = 950 lei**

2.2 Identifying cost drivers specific to each activity

- Production launch activity - the amount of wine obtained

- Red wine Merlot = 1000 l

- White wine Feteasca Regala= 1000 l
- Processing activity - the number of direct processing hours
- Red wine Merlot = 0.7 direct labor hour/ l wine
- White wine Feteasca Regala= 0.5 direct labor hour/ l wine
- Equipment operation activity – number of hours of equipment use
- Red wine Merlot = 0.9 direct labor hour/ l wine
- White wine Feteasca Regala= 0.7 direct labor hour/ l wine
- Absorption of indirect costs by the ABC method
- Total quantity obtained = 1000 l red wine + 1000 l white wine = 2000 l wine
- Total direct labor hours= 1000 l red wine\* 0.7 hours+ 1000 l white wine \*0.5 hours = 1200 lei
- Total equipment operating hours = 1000 l red wine \* 0.9 hours + 1000 l white wine \* 0.7 hours = 1600 lei.

**RESULTS AND DISCUSSIONS**

The first stage in the calculation of costs is represented by the primary distribution of expenses from financial accounting by department (table 1).

Table 1  
-lei-

Primary distribution of accounting expenses

Expense elements from financial accounting	Production department		Indirect production costs	Administrative department expenses	Sales department expenses	Auxiliary expenses	Total
	Red wine	White wine					
Raw material expenses (grapes)	3650	2950					3333
Consumables expenses	1250	1200					1200
Energy and water expenses			600				600
Expenses with inventory items			250	100	100	50	500
Salary expenses	1600	1550					1500
Depreciation and amortization expense			550			100	650
Maintenance and repair costs			350				350
Other expenses with services performed			500				500
<b>TOTAL</b>	<b>6500</b>	<b>5700</b>	<b>2250</b>	<b>100</b>	<b>100</b>	<b>150</b>	<b>8633</b>

Table 2 represents the calculated unit cost for each inductor, their values being obtained by relating the cost of activities to the volume of inductor.

Table 2

Determination of the unit costs of inductors -lei-

Activity	Cost total	Inductor	Volume inductor	Cost unitar inductor
The manufacturing.	800	Amount of wine (l)	2000	0.37

launch activity				
The processing activity	650	Labor hours	1200	0.5
The activity of operating the machines	950	Machinery operating hours	1600	0.56

After identifying the unit cost of the inductors, the calculation of the indirect costs of the absorbed activities per product take place. This

is calculated by multiplying the unit costs of the inductors by the volume of inductors consumed by each product as seen in the *table 3*.

Table 3  
Calculation of indirect costs of absorbed activities  
by product type -lei-

Specifications	Red wine	White wine	Total
Amount	1000 l	1000 l	2000 l
Total direct labor hours	500	700	1200 hours
Equipment operating hours	700	900	1600 hours
Manufacturing launch activity cost	370	370	740 lei
Processing activity cost	250	350	600 lei
Operating activity cost	392	504	896 lei
Total indirect costs fixed by product type	1012	1224	2236 lei

In *table 4* the production process for the two analyzed wine categories are determined and the cost sheet is developed using the ABC method.

Table 4  
Cost sheet - lei-

Cost elements	Red wine	White wine
Raw material expenses (grapes)	3650	2950
Consumables expenses	1250	1200
Direct labor costs	1600	1550
Total direct expenses = primary cost	6500	5700
Indirect expenses distributed by the ABC method	1012	1224
TOTAL PRODUCTION COST	7512	6924
Quantity	1000	1000
<b>Unit production cost</b>	<b>7.512</b>	<b>6.924</b>

## CONCLUSIONS

Following the calculation, we can see from the sheets of the two analyzed wine categories that the calculated production cost is different for red

wine compared to that of white wine. In case of the red wine the production cost is 7.512 lei/l and in the case of white wine the production cost is 6.924 lei/l, a difference of 0.588 lei/l.

The difference is not very big and appears as a result of the different time of use of the production equipment, respectively a longer time for red wines because that require a longer fermentation time, implying higher costs.

The most significant difference in the calculation of production costs is result by the different prices of raw materials (grapes) influenced by the different varieties used.

Regarding the materials used in the manufacture of the wine, we noticed that in the case of red wines smaller amounts of bentonite and sulfur are added, on the other hand, in red wines they are used substances to improve aromas that we do not find in the case of white wines, resulting in a total higher value of expenses with consumable materials for red wines compared to white wines.

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