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# *Advantages of Using Standard Cost Method in Managerial Accounting*

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***Abstract:*** *The main purpose of this paper is to emphasize the benefits that the standard cost method may have in the decision process. Managerial accounting provides cost information needed for decision making. Standard cost method is a system of cost accounting which is designed to find out how much should be the cost of a product under the existing conditions. The actual cost can be ascertained only when production is undertaken. The standard cost is compared to the actual cost and a variance between the two enables the management to take necessary corrective measures.*
*Standard costing is a management control technique for every activity. It is not only useful for cost control purposes but is also helpful in production planning and policy formulation. It allows management by exception. In the light of various objectives of this system, some of the advantages of this tool are: efficiency measurement; finding of variance; management by exception; cost control; right decisions and eliminating inefficiencies.*
*The application of this method increases the value of accounting information and improve business organization. These features of the standard cost method allows the preparation of cost budgets and setting benchmarks to better express the normal conditions of business activity.*
***Keywords:*** *cost information, standard cost, cost control, decision.*

## Introduction

Enterprise economic development involves finding ways to improve management accounting and cost calculation, so that all resources of economic entity can be identified and mobilized. Improving the organization of management accounting refers mainly to improving the methods used.

The improvement of accounting methods applied in business management is necessary, because information on production efficiency are particularly important in decision making.

In a competitive economy, norm of measuring production efficiency can be considered standard cost. Standard cost method takes into account future business activity, for which standards are used as measuring instruments, control and management activity.

In the concept of standard cost method, standard costs are considered the real costs of production. Normally costing calculation is reduced to a single calculation, standard costs, which are the foundation of the sale pricing.

Deviations from standard costs are an important part of the standard method - cost. Basically, they provide information on the degree of organization of work and employment level programmed into the production, supply and sales. Based on these considerations, knowing deviations is important in the information management.

For the correct production cost in the standard-cost method it is necessary that the organization of managerial accounting takes into account a number of assumptions. These assumptions are set according to technical, organizational etc. features of each enterprise. The most important of these assumptions are:

- *organizing the flow of primary documents as primary carriers of information on production costs and production;*

- *organizing preventive control and current control of production costs.*

Applying the standard - cost method requires the following steps:

- *develop standard calculations for products*
- *calculating, tracking, recording, analysis and reporting deviations from standard costs;*
- *controlling costs in terms of indicators. This step is performed simultaneously with tracking deviations and considers providing information on deviations from standard costs calculation on each item to make decisions on compliance standard costs.*

For seeing the advantages of applying standard cost method we present how to organize the accounting costs for raw materials and direct materials in the context of this method.

## 1. Development of Standard Calculations for Materials

Improving accounting organization for raw materials and direct materials, the standard-cost method, concerns the calculation of these costs in advance.

Standard costs of raw material and materials are determined by reference to quantitative standards for each type of raw materials and direct materials and standard prices. "[1]

The calculation is as follows:

$$C_{sm} = \sum_{j=1}^{m} q_{sj} * pa_{sj}$$

where:
$C_{sm}$ – *standard cost of raw materials and direct materials;*
$q_{sj}$ – *quantitative standards for raw materials and direct materials;*
$pa_{sj}$ – *supply standard prices;*
*j – kind of quantitative consumption.*

"The determination of quantitative standards for raw materials takes place in an analytic and technical examination of various types of materials to be used in the tehnological process, taking into account: quantity, quality, standard dimensions, the possibilities of purchasing, processing operations etc. "[3]

Material standards are developed by technical staff and recorded in the technical documentation, where quantitative standards are extracted in the list of materials which facilitate cost calculations.

Standards of materials is calculated for each kind of material on specific consumption presented in technological documents.

The calculation of standard costs for materials involves multiplying the standard quantities with standard prices.

*"Standard prices must be a norm too."* For this reason, they are established using the historical statistic method in one of the following variants:

- *average price variation based on data from a longer period of time (5-10 years);*
- *trend's variant taking into account the price movements in the period considered;*
- *variant using data from the previous year phase for which standards are developed.*

In a market economy in which prices are formed by confronting supply and demand, pricing and tariff changes are frequent, which gives lower stability for standard value over the time.

To exemplify the standard cost calculation method, we consider a finished product manufactured by a particular firm, called "Product A".

For the manufacture of Product A there were established standards for raw materials and direct materials, standards that have been listed in "List of quantitative standards".

**List of quantitative standards for raw materials and direct materials**

**Table 1.**

| No. | Raw materials and direct materials | U.M. | Qunatitative standard (u.m.) |
|---|---|---|---|
| 1 | Raw material 1 | mc | 0,016 |
| 2 | Raw material 2 | kg | 0,016 |
| 3 | Raw material 3 | buc | 0,024 |

Standard prices for raw materials and direct materials used in the production of "Product A" is entered in the "standard price list" and are as follows:

**Standard price list**

**Table 2.**

| No. | Raw materials and direct materials | U.M. | Unit standard price (lei) |
|---|---|---|---|
| 1 | Raw material 1 | mc | 600,00 lei |
| 2 | Raw material 2 | kg | 5,70 lei |
| 3 | Raw material 3 | buc | 116,74 lei |

As stated previously, to determine standard costs for raw materials and direct materials, it is necessary to multiply the standard quantities with the standard price.

**Standard costs for raw materials and direct materials**

**Table 3.**

| No. | Raw materials and direct materials | Quantitative standard | Unit standard price (lei) | Value standard (lei) |
|---|---|---|---|---|
| 1 | Raw material 1 | 0,016 | 600 | 9,60 |
| 2 | Raw material 2 | 0,016 | 5,7 | 0,09 |
| 3 | Raw material 3 | 0,024 | 116,74 | 2,80 |
| | TOTAL MATERIALS | | | **12,49** |

## 2. Calculating, Recording, Analysis and Reporting Deviations of Material Costs

Starting from the basic function of the standard costs, namely the standard of measurement and comparison of actual expenditures, using standard costing method involves:

- *"comparing standard costs and actual costs to establish the deviations;*
- *analysis of deviations considering their size and causes;*
- *establish measures to eliminate negative deviations."*

"Deviations are exceeded or savings compared with standard costs."[1] These deviations are due to application of rationalizations or deficiencies arising in the manufacturing process, or in other compartments of activity in the company.

For each place of expenditure, calculation and analysis deviation is performed on specific calculation articles for the standard cost method.

After calculating the standard costs for raw materials and direct materials, managerial accounting records must provide an operational organization for tracking, recording, analysis and reporting deviations of actual expenses compared to the standard.

The organization of this method, ensure the establishment deviations operatively, during the process of production, the ways, places and causes generating. Deviations from the standard costs of materials and direct materials considering both quantity and value, so it can capture deviations from the standard quantities or deviations from standard prices.

"Deviations from standard consumption for raw materials and direct materials, is determined for each area of expenditure, for types or groups of raw materials by:

- release documentation, documentation for the return of materials;
- establishing of the beginning of all of the raw materials used to manufacture;
- inventory of raw materials and direct materials remaining unused."[2]

Deviations are directly reflected in the release documents for replacing other materials and request for additional quantities. Unused raw materials and direct materials is reflected also in separate documents. Deviations from standard consumption is calculated centralizing additional consumption and unused quantities for every kinds of raw materials recorded in documents.

*"The value of deviations is determined by collecting these quantities in a single operation:"[4]*

$$A_{cm} = \Delta_{cm} * P_s$$

where:
$A_{vm}$ *– value deviation from consumption of raw materials and direct materials;*
$A_{cm}$ *– quantitative deviation from the standard consumption of material;*
$P_s$ *– standard price.*

The process of establishing in advance the necessary quantities for manufacturing is used when the raw materials are processed in batches and technology process requires establishing them from the start, after a certain size.

Relationship calculation is as follows:

$$A_{vm} = (c_e - c_s) * Q * P_s$$

where:
$A_{vm}$ *–value deviantion for raw materials consumption;*
$c_e$ *– effective consumption per unit of product;*
$c_s$ *– standard consumption per unit of product;*
$Q$ *– quantity of products manufactured;*
$P_s$ *– standard price.*

For the studied company, the order No. 100 of March 12, 2012, "Product A", 8.250 pieces, consumer documents revealed the following information:

**Quantitative deviations from raw materials and direct materials**

**Table 4.**

| No. | Raw materials and direct materials | Standard consumption | Effective consumption |
|---|---|---|---|
| 1 | Raw material 1 | 0,016 | 0,015 |
| 2 | Raw material 2 | 0,016 | 0,016 |
| 3 | Raw material 3 | 0,024 | 0,025 |

Based on the previous table can make a series of interpretations, calculations and analysis:

- for raw material 1, there has been recorded a decrease in effective consumption compared to the standard consumption, therefore deviation value for this raw material is calculated as follows:

$A_{vm}$ = (0,015 – 0,016)*8.250*600 = - 4.950 lei (saving for this raw material)

- for raw material 2, it appears that there is no deviation from the standard consumption and effective consumption;
- for raw material 3, there has been recorded an increase in effective consumption compared to the standard consumption, therefore the deviation value for this material is calculated as follows:

$A_{vm}$ = (0,025 – 0,024)*8.250*116,74 = 963,1 lei (exceeding for this raw material)

Inventory process is to daily or shorter intervals inventory of unused materials. Quantities from inventory lists are deducted from the quantities released for production in this period and thereby determine effective consumption of every kind of materials. Effective quantiy is compared with standard quantity and deviation resulting is multiplying with standard price to determine the value deviation.

The deviation caused by differences in the price of materials can be calculated by two methods:

- depending on the incoming material (in storage);
- depending on the materials consumed.

The first method is used usually when the materials are recorded in the accounting at standard price. Relationship calculation for this process is:

$$A_{Pm} = (P_e - P_s) * M_j$$

where:
*$A_{Pm}$ – deviation caused by difference in the price of materials;*
*$P_e$ – effective price;*
*$P_s$ – effective price;*
*$M_j$ – quantity of material in storage.*

The second method is used if the material is accounted at the effective price. Relationship calculation for this process is:

$$A_{Pm} = (P_e - P_s) * c_e * Q$$

where:
*$A_{Pm}$ – deviation caused by difference in the price of materials;*
*$P_e$ – effective price;*
*$P_s$ – effective price;*
*$c_e$ – effective consumption per unit;*
*$Q$ – manufactured output.*

Deviations from price differences are caused by reasons such as: changing sources of supply to those considered in developing standards, changing supply prices, changing conditions of transport, etc..

Starting from the same order of 8250 pieces of "Product A", effective supply prices were as follows:

**Price suplly deviations from raw materials**

**Table 5.**

| No. | Raw materials and direct materials | Standard suplly price | Effective suplly price |
|---|---|---|---|
| 1 | Raw material 1 | 600 | 600 |
| 2 | Raw material 2 | 5,70 | 6,00 |
| 3 | Raw material 3 | 116,74 | 120 |

Based on the previous table there can be made a series of interpretations, calculations and analysis:

- for raw material 1 it can be observed that there is any deviation from standard supply price and the effective suply price;
- for raw material 2, there is a increase of effective supply price compared with standard price, therefore deviation value will be calculated as:

$A_{pm}$ = (6,00 – 5,70)*0,016*8.250 = 39,6 lei (exceeding for this raw material)

- for raw material 3, there is also a increase of effective supply price compared to standard price, therefore deviation value will be calculated as:

$A_{pm}$ = (120 – 116,74)*0,025*8.250 = 672,4 lei (exceeding for this raw material)

Deviations from standard costs for raw materials and direct materials can be calculated and global as the difference between effective costs and their standard level, using the following mathematical relationship:

$$A_{Tm} = (c_e * P_e * Q) - (c_s * P_s * Q)$$

where:
*$A_{Tm}$ – total deviation for raw materials and direct materials;*
*$c_e$ – effective consumption for raw materials and direct materials;*
*$c_s$ – standard consumption for raw materials and direct materials;*
*$Q$ – manufactured output;*
*$P_e$ – effective supply price;*
*$P_s$ – standard supply price.*

Exemplifying, for studied company, raw materials global deviations for order no.100/12.03.2012, including 8,250 pieces of "Product A" are:

**Global deviantions for raw materials and direct materials**

**Table 6.**

| No. | Raw materials and direct materials | Standard consumption | Effective consumption | Standard price (lei) | Effective price (lei) | Global deviation (lei) |
|---|---|---|---|---|---|---|
| 1 | Raw material 1 | 0,016 | 0,015 | 600 | 600 | - 4.950 |
| 2 | Raw material 2 | 0,016 | 0,016 | 5,70 | 6,00 | 39,6 |
| 3 | Raw material 3 | 0,024 | 0,025 | 116,74 | 120,00 | 1.635,5 |
| | TOTAL DEVIATION | | | | | - 3.272,9 |

Basically, there is a saving of 3272.9 lei for all raw materials and direct materials.

Calculation and analysis of deviations can be made both during the production process and at the end of period, when it can control how production costs stay within budget. In the first case, the analysis aims at discovering the causes of the deviations so that management can take corrective measures. In the second case, the management seeks adopting decisions based on future projections which are made on the cost of production.

"The organization and analysis of deviations from standard costs, taking into account the following principles:" [4]

- *the principle of permanent and full prosecution of deviations* - under this principle, the stock records and accounts must be organized so that deviations are reflected separately from identification and until their shift due to financial results, revealing their value for every causes.
- *principle of information by exception* - requires reporting to manangement only those costs not covered in the standard, that means exceptions from the standards; it must be revealed the exceeds of cost which affect the economic and financial results of company; purpose is to eliminate the causes which generate them.
- *the principle of operational information* - involve transmission of information to management, daily or at short intervals, for taking decisions that lead to rapid elimination of the causes of deviations. Operative reporting assumes deviations calculation for the main productive consumptions.
- *the principle of selection and rational transmission of information* - according to this principle information system must rational select and guide informations based on the responsibility of each department of activity.

## Conclusions

The main objective of the improvement and diversification of costing methods is to make them more operational and efficient in supplying the information required in decision making. The calculation

methods generally used by companies in the industry, the global method and orders method do not provide sufficient management information.

This is mainly due to the fact that such methods do not allow operational determination of effective cost deviations from the standards, so that timely decisions can be taken to improve operations.

Improvement and diversification of cost calculation methods must consider, in addition to efficiency, foresight and responsibility, and reducing the workload necessary to obtain information on production costs, as well as the possibility to use these informations.

For these reasons, we considered that one of the methods of calculation that generates complex and useful information for management, is the standard method - cost.

The standard - cost method is included in the category of forecast and production operational monitoring calculation methods process which allow to determine cost before production proces begins. Also, the standard-cost method allows budgetary control by calculating the deviations of effective costs from standard costs depending of types of deviations and causes.

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