

The Standard-cost Method: the Best Answer for the Effective Management of the Value Side of the Manufacturing Process and Raising Economic Efficiency

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***Abstract.** The determination of the production cost has a special importance in decision optimizing due to the functions this economic indicator fulfills in the industrial plants. Production potential maintenance of a plant depends on how it succeeds to recover the cost of the accomplished use values by marketing and its prosperity and rhythm of development depend on the difference between the sums cashed from selling the products and the expenses incurred in obtaining and marketing them. Operative determination of the indicators regarding production costs as well as the permanent exercising of administration control per responsibility centers, by measuring the results of the activity carried out within such centers, are requirements that the piloting of the plant depends on in order to achieve economic efficiency.*

Key words: accounting information; standard-cost method; standard costs; manufacturing expenses.

Within the general objective of raising competition, the development of the machine building industry in Romania must target, as sub-objectives, not only stimulating exports but also promoting an import policy, able to support modernizing and re-engineering the industry according to world tendencies. Promoting a coherent policy, compatible with the mechanisms of the European Union, a policy which targets to restructure the economy as a whole, develop and modernize the physical, scientific and social infrastructure, re-vitalize the industries with competitive potential, develop agriculture, support the activities based on information technology, develop tourism and services, etc., is one of the desiderata pursued by Romania between 2001 and 2004 as well as of now, in order to re-launch the national economy.

The preoccupation of any organization is mainly to cover its manufacturing costs and to obtain as possible a high profit. In the conditions of market economy, a plant

that does not cover its manufacturing expenses, which is therefore not efficient, wastes its capital and gets bankrupt. Reducing the manufacturing cost constitutes a very important side of the management of an economic activity, with major implications in maximizing the profit. In the conditions of competition economy, the selling price of the products is established by the market, by confronting the request and the offer. Profit obtaining depends on the capacity of the machine building plants to manufacture high quality goods at as low a price as possible that they can sell for competitive prices, thus valuing the manufacturing factors they have available appropriately, as long as they have no possibility to act upon either the prices of the manufacturing factors that they purchase or the prices for which they market their own products.

The decisive role in minimizing costs is held by increasing the efficiency of the manufacturing factors used depending on innovation, on improving the resource saving spirit. Factor

consumption per product depends on resource administration, on the way they are managed, on the preoccupation each plant shows in reducing or avoiding waste.

Before cost calculation, irrespective of the calculation taken into account (forecast or effective), a complex analysis must be made as to manufacturing expenses in order to select and define them for the main plant activities, for the areas or sectors that caused them, according to the finishing degree of production, as well as according to the period of time it takes for the production causing such expenses to be manufactured. This way, in each calculation period (month, semester, year), only those expenses directly or indirectly connected to the manufacturing of the products during such period must be included within the manufacturing cost, irrespective of the moment when such expenses have occurred.

The model of cost calculation must determine production expenses according to their type, according to their nature, on cost places that caused them and by allocating them from places to calculation objects, should establish the cost per final expense bearers (products, works and services) that consists the object of activity of the plant. According to such cost calculation models, the budgeting, accounting, control and operative analysis of manufacturing expenses per types, places and final cost bearers can be made. These models provide information as to what regards the level of pre-established expenses (budgetary or standard) and of the effective ones. By comparison, the deviations necessary to appreciate economic efficiency and adopt the decisions regarding the management of the value side of manufacturing should be assessed according to types and causes.

The main purpose of improving and varying cost calculation methods in the machine building industry is to make them more operational and efficient in supplying the information necessary to the management in taking its decisions. The present cost calculation methods used in the machine building plants – global method and the method per orders – by which a historical cost is determined a posteriori used in deducting and post factum justification of manufacturing expenses does not offer the management the possibility to fully satisfy its need for information. This derives from the fact that such methods do not allow the efficient determination of the effective expense deviation from the pre-established ones (budgeted) in order to be able to interfere while “on the job” in correcting the non-conformities that produce disorders in carrying out the manufacturing process and bringing back to its normal framework. Applying such methods only a post-operational determination of the effective expense deviation from the pre-established ones can be made upon the accountancy deducting performed at the end of the administration period, when the non-conformities that have produced disorders have either

grown in proportion or been remedied in the meantime and therefore, the moment that the non-conformity was produced has been overcome and when, more than often, the conclusions drawn by analyzing the deviations are no longer necessary and timely.

The standard-cost method provides information regarding manufacturing costs with effective, forecast and operational character. *We consider that, in the machine building industry, these objectives can be achieved by using the standard-sole cost alternative of the standard-cost method.* This way managerial accountancy becomes from a registration with historical character that registers and reports the facts that have taken place, having no operational and efficient power of informing, a modern managing instrument.

According to concept of the standard-cost method, unit manufacturing costs should be calculated in advance using pre-established measures in this aspect and while the manufacturing process is being carried out, efficient follow up of the expenses it causes is organized, so that, by comparison with the standard costs, the deviations on expense places and on causes may be established so as to perform a rigorous control of the costs.

In the original acceptance of the method, the actual cost should no longer be calculated because the standard cost is considered scientific cost and real cost at the same time, for which reason any deviation of the actual costs from standard ones is considered a deviation from the normal and must therefore be ascribed directly to the financial results. Nevertheless, according to the Romanian regulators, the possibility of calculating the actual costs of the obtained production is not excluded. This is done by adding to or, as the case may be, subtracting from the standard cost the deviations taken over from the administration accountancy, which shall be followed up not only according to expense places and causes but to products, as well.

An advantage in using the standard-cost method is also that, although it is based on the concept of total costs using manufacturing expense classification as direct and indirect, it also uses manufacturing expense classification as variable and fixed, which allows cost analysis compared to manufacturing volume and the calculation of certain indicators specific to the direct-costing method (balance point, point of optimum activity, coverage factor, coefficient and safety interval), necessary in adopting scientifically based decisions.

Therefore, with the aid of this method an efficient control of the way in which material and live labor resources are consumed is performed by distinct, permanent and full follow up of the deviations throughout the carrying out of the activity and not at the end of the administration period as in the classical methods, both in efficient registration as well as in accounting, globally and according to causes, from the moment of their occurrence, their identification, respectively, and until they are distributed upon the financial results.

Deviations have a central position in the general concept of managerial accountancy based on using standard costs. They reflect the extent to which the activity is organized, keeping or not keeping with the stage scheduled in the manufacturing, supplying and marketing process. As of which decision orientation regarding the administration of machine building plants makes it critically necessary to know these deviations as a premise for effective informing the decisional factors in the machine building plants as to the non-conformities occurred during the manufacturing process.

The premise of improving the organization of direct manufacturing expense accountancy applying the standard-cost method in machine building plants is knowing the technological process and the manufacturing schedule for a one-year period.

The following are comprised in the category of direct manufacturing expenses within plants in the machine building industry: raw material and direct material consumption; semi-fabricated consumption from its own production; direct salaries and contributions to insurance and social protection. All these represent distinct calculation items in the structure of the manufactured production cost and hold around 65% of it.

Direct standard expenses are calculated by applying the quantity pondering procedure with the prices or tariffs; the consumption and time regulations or standards are multiplied to the supply prices or the standard or regulated salary tariffs to the manufacturing quantity scheduled to be manufactured in the respective department, respectively.

Organizing and carrying out the manufacturing process in the basic departments of the plant also causes, besides direct expenses, a series of indirect expenses caused, on the one side, by the maintenance and operational activity of the equipment and, on the other hand, by the organization and management of the manufacturing process in the main departments. They consist of several simple expense elements of different nature and have a different economic destination. In the structure according to calculation items of the standard cost, these expenses are to be found as overhead expenses.

Specialty literature (Călin, Cârstea, 2002) recommends two procedures for the calculation of standard indirect expenses that are overhead expenses: the global procedure and the analytical procedure according to groups and types of expenses. In machine building plants, we recommend an analytical procedure be used as a procedure which provides much more accuracy.

When the analytical procedure is used, the overhead expenses are established according to their type, having the same calculation basis as above, but taking into account their invariable or fixed character.

Due to the fact that within the structure of standard cost overhead expenses turn out on as a global position, on the one hand it is necessary to deduct the expenses of the auxiliary departments on main departments and, on the other

hand, it is necessary to distribute the general administration and selling expenses on the budget of general manufacturing expenses (overhead expenses) of the main departments.

The works of drawing up the cost standards according to calculation item regulations is completed by filling in the standard cost charts per product. A last stage in establishing the unit standard cost is to distribute overhead expenses upon the costs per product.

In the plants of the machine building industry, distributing indirect manufacturing expenses in the cost of the manufactured products is made by using procedures based on certain criteria or conventional distribution keys. Upon choosing these procedures, it is especially important to take into account the fact that there must be a causality connection between the indirect expenses to be distributed and the distribution basis or criterion, reason for which it is necessary to vary the distribution procedures and criteria of such expenses.

After calculating the standard expenses with the raw and direct materials, it is the important task of managerial accountancy to follow up, highlight and register the effective expense deviations from the established standard level.

Deviation establishing is of great importance in quantifying accurately the effectively achieved consumptions. This recording must be organized so as to provide establishing deviations in an operational manner throughout the manufacturing process, according to types, places and generating causes. Deviations from the standard expenses with raw and direct materials may be deviations from the standard consumer quantities and deviations from the standard supply prices.

Within the plants in the machine building industry, we suggest that quantity deviations be determined by issuing documentation, or material return, respectively. According to primary recording documents of expenses with raw and direct materials – consumer receipts and limit consumer chart – the additional consumptions are centralized and the returns are registered in different columns within such documents.

At the present moment, efficient follow up of raw and direct material consumption within the machine building plants is achieved through consumer rules, which limit themselves to the quantitative aspect and is made for statistical reports and not so much for informing the decision factors within the plant. Direct reflection of the deviations in the issuing documents is performed in case additional quantities are requested (over the standard ones). The additional requests may have different causes: re-conditioning and replacing factory rejects, use of materials with non-conformities from qualitative point of view, etc. The raw materials and materials not used or saved are reflected separately in handing over, return receipts to the warehouse.

In these conditions, applying this method of determining the deviations in the machine building plants may lead to getting accurate information and reflect efficiently upon quantity deviations.

The assessment and analysis of the deviations from the standard expenses with the direct wages, including the due insurance and social protection contributions, is an important problem that needs to be solved during the production process. In order to effectively assess the deviations, managerial accountancy and cost calculation must be organized so as to ensure, through systematic registrations, the comparison between the standard costs with manual labor to the actual costs.

The deviations from the standard costs with manual labor can be deviations from the standard working time and deviations to the standard wage tariff⁵. The causes of these deviations in the machine building industry can be: executing additional operations, unforeseen in the manufacturing process, using improper machinery or machinery other than the ones provided for when forecasting the cost, non-conformities in the manufacturing process, etc.

The other expenses regarding manual labor, social insurance, health insurance and the unemployment fund contributions, respectively, are determined by applying the existing percentage quotas in force on that date to the standard expenses with the salaries and, to the deviations, respectively, in whole and according to causes.

The direction for improving the accountancy of the indirect manufacturing expenses take into account, on the one hand, the calculation and documentary assessment of the deviations to these expenses and, on the other hand, the analysis of such deviations in order to establish the causes that triggered them and consequentially the decisions to be taken.

The identification and the effective monitoring of deviations in indirect manufacturing expenses present certain particularities towards the other calculation items (direct expenses), due to the complex and uneven character of making such expenses throughout the administration period. For this reason, the methodology for determining and effective identification of the deviations in this calculation item differs according to the expense elements comprised in its structure, depending on the methods used for budgeting such expenses.

The directions for improving managerial accountancy of manufacturing expenses in the auxiliary departments aim to effectively identify the effective expense deviations from the standard ones and analyze the deviations on fields and causes and deduct them, for the purpose of calculating the actual cost of the resulting production. These requirements are solved similarly as in the main departments.

In the case of the general administration expenses, the effective identification of actual expense deviations from the standard ones, as well as their analysis and deduction with the purpose of calculating the actual production cost, represents one of the improvement directions. These problems are solved in similarly to those of the general expenses of the department.

The actual costs for the machine building industry plants are determined methodologically passing through a series of stages carried out in a well-established sequence, as follows: first, the actual costs for the auxiliary production are calculated; the actual costs for the main production are calculated. This order of sequence is determined by the fact that the expenses occurred with auxiliary activities can be found, from calculation point of view, as expense elements, either on main department level or on the level of the administration and management sector of the plant as a whole or on marketing production level, depending on the destination of the production supplied by the auxiliary departments.

As a conclusion, with the aid of the standard-cost method, an efficient control can be performed with respect to the way in which material and live labor resources are used by a distinct, continuous and full follow up of the deviations throughout the activity and not at the end of the accounting period, as in the classic methods, both in effective registration and in accounting, on the whole and according to causes, from the moment they appeared or were identified, respectively, until the moment they were distributed onto the financial results.

Management on the basis of pre-established measures such as standard costs, corresponds to the principle of the management method based on objectives and confers accounting a major importance, in its position as supplier of useful information for taking decisions and corrective measures.

In these conditions, accounting becomes more and more, at the level of plants in the machine building industry, an administration instrument, an instrument used in managing the plant, since its main mission is no longer to determine the manufacturing cost, but to control if this cost, previously determined, was observed by the heads of the activity departments. This way, it gains an active role in determining the economic consequences of the measures taken, in following up the effect of such measures and, implicitly, in reducing the due costs of the products obtained.

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