

THE ABC METHOD FOR CALCULATION OF COSTS IN CONSTRUCTIONS

Chirilă Emil

University of Oradea, Faculty of Economics, Universităţii Street 1, director@crisanacons.ro

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The traditional methods for cost calculation are based on splitting the enterprise in centers of responsibilities and usage of systems for distribution of indirect expenses which can lead to under or overvaluation phenomenon of the unitary costs which serve as a base for price fixing. The ABC method does not represent a simple system of cost calculation, being considered as a system of consumption of resources ensuring the premises for transition from the principle of "products consumes resources" to the principle "products consume activities" which as well consume resources. The particularities of the activity for the construction enterprises, linked by the unitary character of the calculation' object, the differentiated structure of the calculation for articles, the large volume of resources allocated in time it creates the premises of applying the ABC method for the cost calculation in combination with the traditional methods and especially with the standard method.

The limits of the "classical" management accounting

The management accounting, an instrument for modeling the value creation process within the company, it constitutes the main source of information used by the management of the enterprise. It has the role for modeling the relationships between the finalities of an organization (products, services, activities, orders etc.) and the value of its needs and resource consumptions which these finalities are generating.

The conceptual and methodological basis of the "classical" analytical accounting, register the expenses and try to riddle the costs for product or on each centre of costs, following the "Taylor" splitting of the enterprise. The indirect expenses are allocated to different products for calculation of the complete cost of production, using distribution keys more or less arbitrary, most frequently being used as basis of distribution an element of direct expenses (direct manual labor, direct materials or even direct costs).

The traditional model of management accounting, based on the "Taylor" concept regarding the enterprise, which acts in an stable economic environment and in competition conditions, are not representing the reality, because the environmental conditions in which operates the enterprise suffered significant mutations.

Thus, the performance of the enterprise becomes multidimensional, because it is resulted from a combination of processes: minimum price, maximum quality and strict fulfillment of the delivery terms.

The performance of the enterprise must be measured by the profile obtained on long term, profit which depends by the capacity of the enterprise to renew the characteristics of its products or to obtain them at lowest costs.

Beside the evolutions of the market, we assist to changes of the internal production conditions, so at changes within the internal environment of the company. Automatization of the production leads to attenuation or even disappearance of the difference between the direct and indirect manual labor, which puts into the discussion the complete cost concept.

Increase of the technical level grows the tendency of reduction of the share of direct expenses and increase in the share of indirect expenses in the total costs. Allocation of indirect materials with the help of a basis of allocation (direct manual labor, direct materials or even the total direct costs) takes to the delivery of information regarding a non-relevant cost, which doesn't reflect the reality.

The classical model of enterprise organization, characterized by a pyramidal type structure and by separation of the execution and direction functions, which suffers important mutations because the organizations have become “flat” structures, with low hierarchical levels and with an trans-functional approach. The structure of the enterprise is “deformed” under the pressure of the increased role which has the activities of “support”, both from upstream and downstream regarding the production function. Therefore, costs evaluation on centers of analysis, which care correspond with the functional structures of the enterprise, no longer are able to ensure a representation of the support costs, which are mainly indirect costs and which can not longer be explained through the direct volume costs, but through other dimensions which are complexity, variety and flexibility. On the other side, the cost of a “support” activity corresponds, most frequently, to a resource consumption which is realized in several functional structures.

These changes in the external environment (conditions for formation of the market value) and internal (changes in the production conditions) have as a consequence and fast expansion of the indirect expenses. In these conditions, the method of complete costs, centered on the indirect costs counter, is diminishing in weight within the total cost and becomes lack of relevance. An relevant information regarding the costs, represents an accurate image of the company’s performance. It is considered that an information regarding cost is relevant if it modulates in the best way the reality, so it reflects the consumption of resources and it is useful in the decision making process.

The methodology of cost calculation based on activities

The costs based on activities or the ABC (Activity Based Costing: ABC) method it represents an analytical system of accounting built around the concept of activity, defined as an ensemble of elementary operations, which allow the delivery of utilities starting from certain resources, homogenous from the point of view of their cost and performance evolutions. Composed from elementary operations, the activities are regrouped in processes. A process is defined as an ensemble of activities organized for realization of a common goal and has three essential characteristics (Lorino, 1996): it is organized in a transversal value regarding the hierarchical organization and towards main functional structures of the enterprise (production, marketing, sales, financial, planning, acquisition); each process has an output (ending) unique global; has an internal or external client.

These activities can be regrouped in processes, depending on their common objective. The production process will regroup all activities which concur to its realization. In this way it is passed from a hierarchical and functional approach of the enterprise to one which is trans-functional, the enterprise being considered as a “flat organization”, respectively a network of activities, with decentralized responsibilities.

The ABC method is not just a simple system of cost calculation on products, but it can be considered mainly a system of resource consumption (Kaplan, 1991). The system of costs based on activities crosses from the traditional logic in costs formation, according to which “the products consume resources”, to a more analytic approach in which “the products consume activities, which at their own consume resources”.

The separation of the enterprise on activities and not in centers of responsibilities (workshops, branches, work positions etc.) offers a better representation of the processes which consume resources, the ABC method is concerned mainly, with the resource consumption by the activities which compose the enterprise.

Searching of a relevant cost model, which can reflect the process of value formation, makes obvious the primary causes of consumption of the resources which are liable to direct control, performed exactly in the moment of the consumption of these resources, in order to realize an efficient administration.

Establishing of the cost on activities supposes association of each activity with an explicatory factor of variation called cost inductor.

The cost inductor is a base of allocation (input) of indirect expenses over the activities and also over the objects of calculation (products, works, services, orders etc.) which have to express a causality relation with the indirect expenses.

The cost inductor must be always the cause of a resource consumption. Based on performance the influence can be of cost, quality and term of delivery. The ABC method introduces a multi-criteria administration, based on an information system regarding costs, quality, and delivery term. The real (effective) expenses and those planned are followed on activities.

The specialized literature makes a distinction between operational inductors, specific to operational activities, such as supply, montage, distribution etc. and structural inductors, which are characterizing structural activities, such as: the administration activity, management etc.

The possible cost inductors can be the basis of distribution used traditionally for distribution of the indirect expenses (number of hours of manual labor, machine-hours, quantity produced and sold etc.), but can also be introduced new cost inductors: number of inspections, handlings, settings of the devices.

In case of the ABC method, the activities constitute themselves as points of intermediary accumulation of costs, because, finally, the resource consumptions are deducted to a calculation object (product, work, service, order etc.). The cost of a calculation object is determined by totalizing all the direct costs and the costs of the activities which concur to the acquiring of a certain product or service.

The calculation of cost has several stages:

Each work centre from the enterprise (organizational structure) is associated with a certain process and later decomposed in elementary activities. The cost of each work centre is distributed on activities.

For each individualized activity, is searched an explanatory factor of the consumption variation, respectively the cost inductor.

All the activities which have the same cost inductor are regrouped in a "regrouping centre". It is calculated a unitary cost of the inductor, equal with the ratio between the amounts of the reunited expenses into the regrouping center and the total volume of the cost inductor. In the case of the "activity based costing" it disappears the distinction between the main and auxiliary locations of expenses, and deduction of an expense over a certain activity is realized only if between them exists a causality relation.

It is determined the cost of the calculation object (product, work, service, order etc.), by totalizing all the direct costs and of consumption of cost indicators which are coming from the regrouping centers, due to obtaining the specific utility. In the cost model based on activities the notion of product cost is not disappearing, being specific the deduction approach and the administration of the indirect expenses which contribute to the production and sale of a certain product.

REFERENCES:

1. Calin O. - Contabilitatea de gestiune si calculatia costurilor, ed. Genicod, Bucuresti., 2000
2. Ebbeken K., Possler L., Ristea M. - Calculatia si managementul costurilor, ed. Teora, Bucuresti, 2000
3. Liggett H. R. , Trevino J., Lavelle J.P. - Activity-Based Cost Management System in an Advanced Manufacturing Environment – Economic and Financial Justification of Advanced Manufacturing Technologies, H.R. Parsaei, editor Elsevier Science Publisher, New York , 1992
4. Ravnion L. , Bescos P.L., Joalland M. , Le Bourgeois S. , Malejac A. - Methode ABC , Edition d'Organisation , Paris, 2003