

# ABC METHOD – EVOLUTION OR REVOLUTION IN THE CALCULATION OF COSTS

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*Summary. The accounting systems of traditional administration have lost their credibility, in the sense in which the accounting information that they produce is lesser and lesser adequate to the action and the control of the modern enterprise, based on the diversity of the production and the multiplication of the combinations of goods and services for the satisfaction of the demand of a more and more differentiated custom. As a reaction to the limits of the classical methods of administration accounting, in the 1980s there was developed and implemented the ABC method, which is based on two complementary orientations: one concerning the calculation and the analysis of the costs and another that aims for it as an instrument of measuring the performances of the enterprise. It represents more of an evolution than a real revolution in the field of the administration accounting.*

*Key words: ABC method, cost inductor, pertinent cost, activity.*

## **1. The premises of the organization of the calculation of costs through the ABC method**

The economical environment most enterprises are part of knew important mutations in the last decades. They can be synthesized in three major evolutions:

- the development of globalisation phenomena and the increase of competition'
- disfunctionalities that can appear in industry and services;
- the acceleration of the technological innovation.

In this context the administration accountancy must answer to the following problems:

- a) the variation of the production and the multiplication of the combinations of goods and services for the satisfaction of the demand of a more and more differentiated custom. On the hand, the enterprise must administrate from now on, at the same time, the two components of the profit: the value, which is fixed by the client, and the conversion value and, on the other hand, the production of an enterprise can be represented through a continuous good-service, in a diversity of combinations products-services, going from the pure physical good to the pure service (the informational sector constitutes an excellent example of this evolution).
- b) the development of the support activities. The production function loses from its importance in the economy of the last decades in favour of the activities downstream and upstream. Beside the sold product, there also generates value for client the complex of services associated to it, offered through these support activities (delivery, installation, formation, service, etc.), and in this context the classical systems of administration accountancy must answer to the following question: how is determined the cost of the resources consumed by the customers if the administration accountancy system is organized on the fundamental principle that the resources are consumed by products?
- c) The structure of the costs of the enterprise has radically changed in numerous industrial sectors. The automation of the industrial production processes led to the modification of the structure of costs. Thus, it arrived, from a structure of costs in which the raw materials represented 40-50% from the total cost of production, while the materials, which represent 29% to 70% from costs, constitute indirect expenses (for example, the electronic industry).

In this new structure of costs, in which there increased the weight of the indirect expenses of production, the adequate distribution of indirect expenses between products becomes preponderant and the use of the division key hour-worker or our-machine, used in the classical accounting systems, is no longer adequate.

On the other hand, in the last 20 years, in many enterprises, the part represented by the conversion values have constantly diminished in the global cost of the enterprise (approximately 40% from total cost of the enterprise) and has increased the weight of the activities of marketing and/or research (approximately the same weight).

In such a context the performance of the enterprise doesn't depend on a single factor of production, direct labour, which, in these cases doesn't represent but a minimum part of the total cost. So, the performance of the enterprise results from a combination of factors as: the minimum price, the maximum quality, the respect of the delivery terms, etc.

d) the functional control of the resources.

The instability and the uncertainty that characterize more and more the environment in numerous enterprises put in difficulty the possibility of the assurance of the coordination of different activities of the enterprise through the budget and, also, lets the different responsibility centre take decisions of local optimization without taking into consideration the impact that they have (their decisions) on the other structural units of the enterprise.

The informational accounting systems must be built in such manner that they generate pertinent information for the processes in the enterprise.

e) the pertinence of the production volume as unique inductor of the cost.

The passage from an economy of offer to one of demand and the multiplication of products that result have modified the causality structure of the costs of the enterprise. Beside the production volume that constitutes, undoubtedly, the predominant cost inductor of the enterprise and other cost indicators like: the diversity of the production and the complexity of the processes of production, get a certain importance to explain the causality of the structure of costs. The increase of the number of cost inductors makes that the adequate representation of the consumption of resources of the enterprise be complex.

In conclusion, it is asked the question: how much pertinent can be accounting systems based on a taylorian representation of the enterprise for the orientation of the administration and the assurance of the control of the enterprise, permanently confronted with the change and the complexity? The answer is that the administration accountancy systems, which inspire from the taylorian vision of the organization of the production, have lost their credibility, in the sense in which the accounting information that they produce is less and less adequate to the action and the control of the enterprise.

## 2. The general presentation of the ABC method

To remove the limits of the classical administration accountancy systems, which have at their basis the taylorian organization of the enterprise, some American enterprises began to develop, in 1980s, administration accountancy system based on the representation of the enterprise going from its activities. A close analysis of this accounting systems show that, in fact, it's rather about more of an evolution of the classical systems than a real revolution in the conception of the administration accountancy systems.

**Synthetically**, two major changes distinguish the accountancy systems on the basis of classical systems activities:

- an other modality of division the indirect expenses on the bearers of costs, through centres of accounting regrouping based on activities and not through functional centres of responsibility;
- it is resorted to a bigger diversity of the basis of division for the allocation of the cost of the analysis centres at the bearers of costs.

Through the brought innovations, the ABC method produces a more pertinent cost, because there is a relation cause-effect between the activity and the product that consumes the activity. From the point of view of the construction of a system of administration accountancy, the activity becomes the centres of representation and modelling of the enterprise. The activity serves as an interface between the consumed resources and the bearers of costs the cost of which we want to measure. It allows a new vision in the cutting up of enterprise, the transversal vision, which replace the vertical one, respectively the cutting up

on functions. In this way there is obtained a more real cost, on the basis of which there can be taken strategically decisions, through the non-creative activities of value and the division of expenses, using as basis the activity that generates them.

**The ABC method has at basis two fundamental principles, and namely:**

- the activities consume the resources of the enterprise;
- the products consume the activities.

Within the ABC method, the treatment of the direct expenses is alike the one in the classical systems, respectively direct allocation on the bearers of costs. The indirect expenses make the object of a different treatment, the procedure of their allocation on the bearers of costs, supposing two stages:

- the division of the indirect expenses between the centre of accounting regrouping established on the basis of the activities;
- the allocation of the cost of the activities on the bearers of costs according to the consummation of the activities.

The ABC method has at basis two complementary orientations: one concerning the calculation and the analysis of costs and other that aims it as a measurement instrument of the performances of the enterprise, which will be followingly presented;

**3. The calculation of costs through the ABC method**

The organization of the calculation of costs through the ABC method supposes the going over of the next stages:

- the identification of the activities and of the due costs;
  - the establishment of the cost inductors of the activity;
  - the regrouping of the activities in homogenous centres;
  - the allocation of the costs of the activities at the calculation objects.
- a) The identification of the activities and of the due costs. The analysis of the activities in the first stage in the construction of an ABC systems and presents a big importance, because according to this initial stage is determined the nature of the administration information produced in future by the ABC system, on long term. The knowledge of the finalities of the accountancy system on the basis of activities will direct the labour of the identification of the activities and the degree of detailation of the analysis. The calculation of cost needs, in most cases, the identification of 30 up to 40 big activities; following, a measure of the profound analysis and of the reconfiguration of the processes demands a much more detailed analysis which allow the identification of various activities in an enterprise. In this essential to be determined for each activity the responsibility centre of which it is attached to identify the person that can take the administration decisions relative to the activity. Without this connection with the structure of responsibilities it is not possible the control of the cost of the activities. The regrouping of the activities in administration processes allows to be determined, through the aggregation of the cost of activities, the cost of the process. Some authors have introduced a distinction between the activities creating of value and those that don't create value, with the purpose to concentrate the efforts of reducing the costs on the non-creative activities of tax-added, without diminishing the offered value to the final client. After the activities were identified, it is proceeded to the determination of the costs of the resources consumed by the activities. Although certain consumptions of resources are indirect in comparison with the products, they are still direct towards the activities, which makes that the resources consumed by the support activities not be divided in the cost of the products in comparison to the arbitrary division bases. Actually, one of the basis principles of the ABC method relies precisely in the more realistic division of the indirect expenses on the products, in comparison with the classical methods of calculation of costs.
- b) The establishment of the cost inductors of the activities. The cost inductors represent the innovating part of the ABC method, but are, at the same time, the more expensive aspect.

The cost inductor constitutes a causality factor of the cost of the object of calculation and, particularly, of the activity. The knowledge of the inductors of cost of the activities is essential for an administration of the activities in view of the reduction of their cost.

The cost inductors allow the allocation of the cost of the activities on the calculation objects, they serving as measurement instrument of the volume of the provided prestations.

In the context of the administration of the activities, the choice of a cost inductor can be oriented in view of the attaining of two different objectives:

- the representation of the consumption of resources in activities by the objects of calculation;
  - the orientation of the employees' behaviour, choosing as cost inductors those that determine the members of the enterprise to take decisions referring to the consumption of the activities allow the realization of the strategically objectives of the enterprise.
- c) The regrouping of activities in homogenous centres. The activities that have the same cost inductors will be grouped in a single centre of accounting regrouping on the basis of activities, without being affected the quality of the allocation of activities on the objects of calculation. Generally, in a enterprise there can be identified 200 up to 300 different activities. The making of 200 up to 300 centres of accounting regrouping of indirect expenses can lead to an accounting system that is extremely voluminous and that is why the management must realize a compromise between the simplicity of the model of accounting representation of the enterprise (reduced number of activities and cost inductors) and the precision of the provided accounting information (the detailed ensemble of the activities and of the cost inductors). That's why it is imposed the regrouping of the activities, it must be done in comparison with the factors of causality (the cost inductors) so that the distortion risks, in the calculation of the cost of the objects of calculation be minimum.
- d) The allocation of the cost of the activities on the objects of calculation. For the determination of the complete cost of the objects of calculation, the next stage relies in the division of the indirect expenses on the objects of calculation, between the analysis centres on the basis of activities. This primary division of the indirect expenses between the analysis centres on the basis of activities, can be done after two ways that correspond to two types of indirect expenses:
- the indirect expenses that are directly attachable to a centre of activities. In this case, the indirect expenses are directly affected, as also in the case of the direct expenses of the products;
  - the indirect expenses both towards the objects of calculation, and towards the analysis centres on the basis activities. They can not be directly imputed and must make the object of a division between the different analysis centres on the basis of activities, using a division key, more or less arbitrary, which can lead to distortions in the calculation of the cost. In the conception of the ABC method, the cost of the objects of calculation (products, technological installations, customers, etc.) is formed by the direct expenses at which it is added the cost of the consumed activities, the latter being obtained through the weight of the unitary cost of every inductor with the volume of the inductors used for the obtaining of every calculation object.

The adoption of the ABC system for the calculation of the complete costs of the products has a bigger impact on the effective level of cost and, so, of the profit margins, when there are accomplished two conditions:

- the part of indirect expenses due to the support activities for the production increases in the structure of the total costs of the enterprise;
- the diversity of the products or the services offered to clients is increasing.

## Conclusions

We appreciate that the introduction of the ABC method, as a reaction to the limits of the classical methods of administration accountancy, generates a series of mutations in the administration of the enterprise, and namely:

- **the administration through activities** allows continuous improvement of the performance through the identification of the ensemble of activities, cost and relations of cause-effect between the activities. **On other hand, the map of the activities allows the heading of the managers' attention towards:**
- **the activities that represent the most important cost for the enterprise and, so, the most important potential of the reduction of costs;**
- **the non-creative activities of value the elimination of which would allow the diminishing of the costs of the enterprise, without a reduction of the value of the product offered to the customers;**
- **the comparison between various entities of the enterprise (factories, sections, workshops, etc) in what concerns the performance level attained in the realization of an activity. The most performing entity, in the putting into practice of the activity, becomes thus the reference for the realization of this activity in the ensemble of the group and indicates ways of continuous improvement of the performance. The comparison can also be made through the comparison to a reference point external to the enterprise, as it is, for example, the enterprise considered the most performing in the sector.**
- **it shows the impact of a decision taken concerning an activity on other activities structurally comprised in another function of the enterprise.** A concrete example is represented by the choice of the solution in view of the conception of the product because 80% up to 90% from the value of the product is definitely fixed in the moment of the conception phase. All the actions of reduction of the value, which is limited to the production operations, won't lead but to minimum results.
- identifies the causes of costs better than the classical methods, which leads to the increase of accuracy and pertinence of the obtained costs, and also to the use of the information about the cost in different purposes within the enterprise.

This thing is realized through ABM (Activity-Based Management), as it will be presented in a separate article. The improvement of the quality of the accounting information about costs allows the taking of the best decisions in what concerns the politics of the product, the externalisation or the fabrication by the enterprise of some products or components, the orientation to the client.

With all these advantages, the ABC method represents more of an evolution than a real revolution in the field of the administration accountancy. The ensemble of the concepts and the fundamental principles that stay at the basis of the classical administration accountancy systems are found put into practice by accountancy through activities.

The two mains changes brought by the ABC systems refer, actually, to the application of the fundamental principles. On the one hand, the criterion of the regrouping of the indirect expenses in analysis centres is done on the basis of the attachment of resources to the activities that consume them, and not on the basis of the belonging to a responsibility centre. The regrouping way doesn't put into discussion the principle of treatment of the indirect expenses in the calculation of the complete cost. On the other hand, the introduction of the cost inductors for the division of the expenses in the analysis centres on the objects of calculation is an application of another calculation principle of the complete cost, respectively the division of the indirect expenses on the basis of some division keys. From a strictly accounting point of view, the contribution of accountancy through activities is limitation itself, through, to a **reactualization of the classical model of the administration accountancy, to adapt it to an economical and technological environment that has evolved in terms of complexity of the processes of production and of diversity of products, to satisfy a demand of a more and more exacting custom, whose satisfaction determines the performance of the enterprise.**

The vision of the enterprise as an ensemble of activities and processes before becoming an ensemble of responsibility and functions centres imposes it self more and more in different science domains of the administration. **The most interesting contribution of the ABC system is, undoubtedly, that it articulate the existent administration system with the representation through activities and provides information to those with decisional power to letter administrate the activities.** The analysis through activities has the big merit to place in the centre of the accounting preoccupations the care to generate information that is pertinent for the taking of the decisions in the enterprise. It undoubtedly allows to be

better redefined the role that the administration accountancy can have in the taking of the operational and strategically decision in the enterprise.

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