CONTRIBUTION OF THE ABC METHOD (ACTIVITY BASED COSTING) TO IMPROVE PERFORMANCE AND FINANCIAL MANAGEMENT OF AN ENTITY

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*ABSTRACTt: Our objective is to present a valid and reasoned opinion on the contribution of a modern method of costing calculation that is ABC method (**Activity Based Costing**), in managerial accounting. ABC method is a methodological approach of "refining" the system costs, which puts the concept of activity at the centre of cost issue. In the first part of this scientific approach there are mentioned the main causes that have led to this method, there are considered the objectives and requirements that it must respond to, so that in the last part to insist on the phased implementation approach of the ABC method in the entity. With no intention to exhaust these topic boundaries, I will conclude with a series of conclusions about the limits and innovations made by the ABC method, leaving the way open for new research in the field.*

Keywords: activity-based costing method, cost driver, activity, limits, benefits

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Introduction

ABC management method is one of the new strategic initiatives in business, being considered by specialists an innovation in cost management. From conception to maturity, depending on the area of users' origin, ABC method (Activity Based Costing) received different meanings. While some economic professionals have called it "technical" and other "process" or "system", researchers have given it the title of "method". Regardless of how

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it was made, the ABC method circumscribes to a continuous effort to improve the activity of an entity, with a dual role, of analysis and evaluation, being applied in accordance with accounting principles to interpret data on costs and provide a serious source of information which management decisions to be based on.

"The origin of the method of calculating the cost on activities is found in U.S. literature, in "The Hidden Factory" developed by Jeffrey G. Miller and Thomas E. Vollman, in which it is subjected to critical analysis the sectors generating the indirect costs." (Caraiani and Dumitrana, 2004). The two authors have examined with great accuracy the places of production of indirect costs, reaching the conclusion that it is very important to assign a decisive role in controlling costs to the development of more detailed model of the causes of these costs. They have not insisted on creating a new system for determining the costs, but on the detail of producing indirect costs and on the measures to be taken at clarifying the causes which have contributed to record negative deviations of indirect costs.

Literature review

Some authors stated in the literature that the first attempt for the achievement of such a computer system and cost analysis dates back to 1987, belonging to Kaplan, Cooper and Jhonson. According to Robert Kaplan's statement *"costing calculation and the inspection procedure of the costs at that time did not show the production costs distorted and the nonfinancial crucial data was necessary for business efficiency and effectiveness in a new competitive environment."*

Coming out in 1989 in Germany, the paper *"Calculating process costs"* by Horvath and Mayer, was the starting point in the development of the so-called process costs calculation. The two concepts introduced by the authors, "Activity-based costing" and "Process-based costing" are used in the international literature as synonyms.

Since the beginning of the activity-based costing method (ABC), other methods have also appeared, such as: ABM or ABB. *Activity Based Management* (ABM) was defined as a systematic method of planning, control and improvement of labour and indirect costs, being focused on the concept of "activities consume costs". If the traditional systems of costs were focused on the idea of 'labourer', ABM system is centred on the idea of "labour", the building core of ABM being activity-based accounting.

Activity Based Budgeting (ABB) is the reverse side of activity-based accounting, being a systematic method of planning and budgeting the

resources of an entity. In essence, this method defines cost per target and plans work tasks for each activity to determine the number of employees and expenditure budgets. Activity-based accounting is *"a system that allows to follow the development of an enterprise in an "interactive" manner. This can be taken in any field, regardless of company profile. The new approach is (in different ways and with different names) to steer the company through its management activities and processes"* (Popa, 2005).

Empirical research conducted on the effectiveness of the ABC method have shown its benefits by supporting the continuous improvement process of the activity, by developing methods to determine actual costs, by increasing financial performance. The theories of diffusion of innovations (Kwon and Zmud, 1987), transaction cost economics (Roberts and Sylvester, 1996), and information technology (Dixon, 1996) stressed the impact of adopting the ABC method on the financial performance level of the entity. In general, the ABC method was effective in modelling the factors that led to the success of ABC system, being even linked to some of the practitioners' statements (Barnes, 1991; Brimson, 1991; Bruns and Kaplan, 1987; Harris, 1990). Clear evidence that the ABC system offered "support to ground decisions" was also brought by Cotton, 1993; Lukka and Granlund, 1994; Innes and Mitchell, 1995; Krumwiede, 1996, but also "satisfaction" on cost management (McGowan and Klammer, 1997; Swenson, 1995; Shields, 1995).

Although the ABC method has found rapid acceptance, however, there were a variety of views on the effectiveness of the method (McGowan and Klammer, 1997). In time, by simulating the transition to this method of calculation, in literature were identified a number of factors which influence the effectiveness of using this method, especially financial factors. Study results have confirmed the benefits of the ABC method, when it is used in parallel with other strategic approaches and when implemented in complex business entities in which costs are relatively important.

Research methodology

The approach focused on investigating ABC methods of calculation, by presenting the reference framework of the theme in the literature. It was initially studied the need for deepening and implementing such a calculation method. Arguments in favour of the emergence and development of the method of activity-based costing are of the following nature: crisis of the traditional system for determining costs, the emergence of some sustainable functions, which gives value to the product (service, promotion, research and development), changes in market outline and in the balance of supply-

demand forces, transition from a functional approach to a transversal one which takes into account all the components that contribute to competitive advantage.

Information on the topic reviewed was conducted by studying the relevant literature in the field, national and international, by analysis of related legislation, using as scientific research methods in my approach analysis and synthesis.

The causes and objectives that determine the choice of activity-based costing method in the entity

"*The ABC calculating system was born because of criticism to traditional cost calculation model, which uses the allocation process, according to which allocation bases were not the real model in which the products consume resources"* (Diaconu et al, 2003). The practical application of the ABC method was performed for the first time in the "General Electrics" company in the 60s in the U.S.

The main causes which led to the need to apply this method of calculation were: shortfall in deepening of modern costing systems, deficiencies in traditional costing systems, diversity of information requests for company management and producing changes in the strategic position of companies on the market.

Applying ABC method is based on respect judgements such as:

- *"determining causality between cost object and resources based on the correlation: products consume activities, activities consume resources and resource consumption generates costs, considered the basic principle of the method;*
- *there is a shift in transversal zing the processes from the entities in activities and in emphasizing the value analysis, respectively the contribution of the entities to transverse processes through activities;*
- *combination of consumed resources by conducted activities;*
- *reconsideration of fixed costs behaviour compared to cost driver (as variable);*
- *the notion of cost in the ABC method takes into account the contribution of multiple functions, taking into account the effect of "interconditioning" between departments*
- *all activities are focused through the process of "value creation"*
- *the value of a product is given by two components: intrinsic value of the product and value of the services that accompany*

the product, as a result of the work of some departments" (Fătăcean, 2009).

ABC method hypothesis is that careful analysis of the activities should lead to identification of relationships that more products maintain, little by little. The ABC method rejects cascade allegations and seeks to keep relations between costs and the causes that have triggered them. For this reason it considers that each entity producing directly productive activities also ensures peripheral activities. Thus, for each product a list of directly consuming activities is being drawn and also of those the activities generate.

Basically, we are dealing with two types of activities: "*on one hand, activities that can be attached to products, also called* ***primary or main activities*** *(are those used outside the entity, either by a product or by another entity; they express the main mission of the entity but they do not necessarily have a direct relationship with the products that can be support activities) […];on the other hand, we consider the activities that the entity carries out in a conjunct manner to the main activities, as their support. They are called secondary activities and they are not related to products"* (Bouquin, 2004).

ABC Method (Activity-Based Costing) was perceived as an alternative to traditional accounting systems, having the specific of organizing the production process as a set of activities. Managers were asked to consider the resources consumed by these different activities, and only then to allocate costs to products. Practically, the ABC method is based on the entity's cut into transverse. It has been noticed as a measurement process of operations costs using: analysis of costs elements, determining activity-based performances, measuring production and operational costs.

In fact, the ABC method (Activity-Based Costing) is *"an instrumental extension of the ABM method (Activity-Based Management). Activity-based management method is an excellent way to improve the quality of managerial decisions, relying heavily on information provided by the ABC method"* (Căpuşneanu, 2006).

The objective of the ABC method is the allocation of effective action activities determining costs. *"People can not manage costs; they can only manage activities that determine the costs".*

The basic principle of the ABC method can be described as follows: activities consuming products/services that consume resources. Products and services may be assimilated to processes. The relationship between the three concepts can be expressed by two equations: "consumption" and "necessary". The processes consume sub-processes or activities which in

turn consume resources. Resources are needed both for carrying out activities and for implementation of processes, whereas processes consist of activities. If each stage of the relationship is measurable, then the cost can be fully defined.

The steps of the ABC method (Activity Based Costing)

Applying the ABC method shall be conducted in phases as follows:

1. Identifying activities and associated costs is undertaken to cleavage of value creating activities from the non-value creating ones and involves a thorough knowledge of the technological process. The complexity of the activity of an entity induces the number of defined activities. The activity is *"a set of complementary basic tasks facing an end"* (Tabără, 2004). There are four different overall levels: unit level activities, batch level activities, product level activities, entity level activities. The method of separating the activities must meet the computing requirements of a large number of cost carriers, such as product, customer, order, etc. Delimitation of activities is continued by allocating resources associated to these.

2. Establishing cost drivers for each activity

Cost driver expresses the causal relationship between activities and the product consuming activities. Cost drivers are *"measuring units which are used to allocate indirect costs (production, administration, sales)"* (Căpuşneanu, 2008).

Cost drivers are determined by the volume of performed activity, by the operational organization of the entity, by its technological configuration, by the existence of activity capacity, and must be easily identified and used. They should not influence the behaviour of staff, must be available and must be in a causal relationship to changes in resources consumption. If the category of traditional drivers includes the cost of raw materials consumed, labour-hours, equipment operating hours, number of products, the category of the current drivers includes number of manufacturing orders, number of quality checks, number of plans developed.

3. Regrouping of activities according to a cost driver

The ABC method involves taking into consideration the factors that cause (generate) costs, known as cost drivers. Using the method means *"establishing a difference between the notion of driver and activity measuring unit. Delimitation of time between the two concepts is linked to the time horizon considered."* (Briciu, 2006)

At this stage, calculation of production cost is realized by removing the individual treatment of each activity and grouping the activities with common cost driver in a pool centre. The cost of a driver is determined by taking into account two reference sizes: pool centre cost and the total volume of the cost driver:

$$Cu_d = \frac{Ccpool}{QTd}, \text{ where:}$$

Cu_d – unit cost, cost driver
Ccpool – pool centre cost
QT_d – total volume of drivers
In terms of methodology, the cost of the driver can be treated as internal absorption rate.

4. Calculation of product components, work or service

Calculating the production cost of products, works and services is done in three steps: calculation of direct costs, depending on production volume: raw material consumption, direct labour, equipment operating hours; calculation of batch costs derived from the organization of production (share of indirect costs), respectively cost of order launched in manufacturing, cost of technical and quality check, etc.; calculation of subassembly cost resulted from design-redesign activity.

5. Calculating the production cost of products work or service

The relation for determining the production cost is as follows:

$$C_{ca} = Cu_d \times Q_d, \text{ where:}$$

C_{ca} – consumed activity cost;
Cu_d – unit cost, cost driver;
Q_d - volume drivers used in the manufacture of a product.

Getting the formula for calculating the production cost was achieved by aggregating the following components: cost of the components previously calculated, cost of other raw materials not accounted for in subassemblies cost methodology, direct labour cost, cost of equipment operation, cost of activities consumed by manufactured products.

6. Full cost calculation

It is determined by aggregating the production cost and the share of general administrative and sales expenses through cost drivers.

Conclusions

ABC method measures the performance of processes and activities, determining the cost of the products resulted from these and identifying opportunities to improve efficiency and effectiveness of processes. Measuring performance is good, but reaching it is even better. Performance measurement can be achieved by determining piloting indicators. Determining these involves developing an action plan for reaching the performance and inventory of piloting indicators.

ABC method, regarded as a necessary process to the effort of improving ongoing activity of an entity, performs a dual role, analysis and evaluation. As a quantitative measurement technique of cost and performance of an entity, ABC collects the costs related to the consumption of the factors of production and administrative expenses and uses them in defining the structure of activities. Regardless of the method applied, ABC method is a process for clarifying and simplifying the decisions needed to processes assessors or managers.

The applicability of the ABC method highlights two categories of benefits: advantages of applying the ABC method over other methods of calculation and competitive advantages of entities which apply the method to those that do not apply it. The first category of benefits includes issues such as: identifying the causes of low performance and negative performance, eliminating the damage limits of the cost of products from dividing the entity in productive and unproductive components, identifying the real players in the overall performance of the entity, delimitating and identifying the most profitable and the most unprofitable components of entity's business, ensuring the achievement of performance management through cost drivers.

The essence of applying the ABC method is not cost calculation but determining its origin on the background of functional relations. Establishing customer profitability through the two components of the cost (product cost and customer cost), accountability of staff, adaptation to continuous changes on market are some competitive advantages of entities applying the ABC method.

ABC approach is demanding in terms of mapping activities and the "anticipation" of support in relation to the products. Getting a real advantage, entities with multiple sources of deviation may be ignored in

their economic consequences. Every success has its limits and the applicability of the ABC method has encountered a number of critical factors that contribute to the failure of its implementation. These include: heavy volume of work in collecting the information it requires, the accuracy of provided data, absence of a computer program, confusion in the preparation of other records in addition to those from financial accounting.

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