INTERFERENCE INFORMATION TYPE ACTIVITY BASED COSTING IN THE MANAGEMENT CONDUCTED AT AN ENTITY

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Abstract: *The future of any society is strongly influenced by the production and possession of relevant and especially operative accounting information. The central objective of this article is to demonstrate that the assistance of the managerial process based on Activity-Based Costing information type can be a competitive advantage for companies operating in deeply unstable economic environment in Romania. The article deals with encouraging the use of a modern costing method in a society, namely ABC method, and presents the latest developments of this method, as they are addressed in French specialized literature: Time Driven ABC, Feature Costing and MBM (management by means). The result of this study is emphasizing the fact that information and knowledge are two resources with an essential role in the success and survival of an entity in a changing environment. The refusal of the managers to adopt new techniques for obtaining a financial accounting information, also filtered from the cost point of view, can attract erroneous estimates of the benefit obtained or formulating economic unsupported expectations.*

Key words: *cost, ABC method, managerial accounting, decision, management.*

JED Classification: M40, M41.

INTRODUCTION

The complexity of economic activities, in terms of competition imposed by globalization and internationalization, increases the role of economic and financial information in decision making. The quality of decisions depends on the quality of the information. In modern business conditions, the information becomes the "raw material" indispensable to the management. This is "the link thread" between the management and execution process. Only with information, the decision maker can keep under continuous observation conduct of economic processes over the whole entity, in every sphere of activity and can operatively intervene on them.

Managers cannot lead effectively *unless they have as much data and information about costs and about their implications on enterprise performance, trends and strategies in costs* (Budugan, 2002).The manager must be able to define the type of information he requires, and the entity's information system must be able to provide the desired information. Activity based costing is an important and timely achievement in cost calculation. The main objective of the activity based costing model is the ability *to act on the consumption of resources towards creating value for the customer and shareholder* (Horau, 2002).The central idea which led to the calculation of costs by activity and to the modification of imputation logic, previously used, was *looking for an improvement of the procedure of allocating indirect costs, which have become increasingly important in modern production system* (Amintas & Guillauzo, 2003). It aimed to devise relevant costing methods using two types of contributions: multiplying the indirect cost sharing keys and choosing the cost sharing keys that allow taking in to consideration the complexity of production processes.

MATERIALS AND METHODS

Approaching the theme of research focused on investigating the ABC method of calculation, by presenting the general reference framework of the theme in literature. ***Descriptive research***, used as research strategy, involves a preliminary study of collecting information in a complex research project, being used for the knowledge of systems and social processes.

The research type used is, on one hand ***quantitative research***, based on the principles of *positivism*, and of *neo-positivism* and, on the other hand, ***fundamental research***, aimed at deepening the theory.

The main research scientific methods used in my approach were the ***analysis*** and ***synthesis***. The selection of these research methods directly depended on the nature of the studied phenomena, but also on the theory from which this study is claimed. I also made use of the ***empirical method***, which is the simple observation of the facts without making assumptions, and of ***experimentalism***, that both complements and opposes empiricism. Experience aims to control the assumptions, being a mental and rational operation, that brings certainty.

The challenge that was the basis of this scientific approach has been to emphasize the need for cost type information to assist the management process. If qualitative research plays an increasing role in research in management, their status is not yet clear (Giordano, 2003).There are many views expressed which are based on qualitative research, but which are in danger of confusion, without a comprehensive consultation of specialized literature.

RESULTS AND DISCUSSION

The need for information is caused by the decisions to be taken, and the information is of value to the manager only if it helps to reduce the uncertainty of the future, if it can affect that decision and if it contributes to changing the consequences of that decision. In making decisions, the information is the central point of the whole managerial process. Decision-making is an action that occurs at all levels of the organization, covering both short-term and the long-term perspective (Budugan, Georgescu, Berheci & Beţianu, 2007). Plans are activated by decisions, and decisions are taken mainly for the future and are affected by uncertainty.

The decision means conversion of the information received from a decision-maker in an action. The construction of an information system depends on the specifics of the decision. Cost information system is a "cornerstone"for the financial-accounting information system.

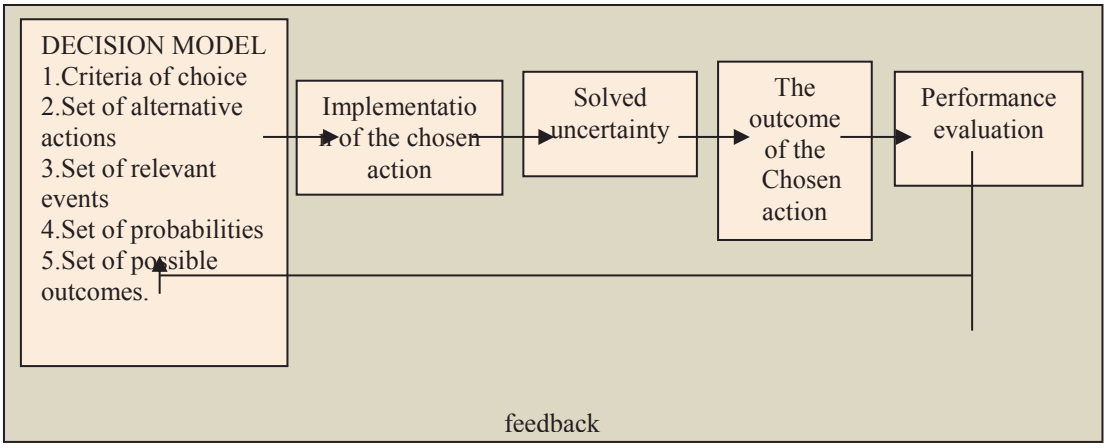
Considering that uncertainty is always present, taking decisions in these conditions is a key part of the management. The difference between the two, between risk and uncertainty is that, *unlike risk, which involves knowledge of event occurrence probability, uncertainty means approximate knowledge of possible events, but not of event occurrence probability* (Dănescu, 2003).

ABC approach allows a better understanding of the phenomenon of transversality, i.e. the fact that not only production operations are those that induce costs, as the manner in which they are articulated and coordinated "chain" or "process" (Leclère, 2001).Thus, the modeling of an entity by its transection in the activities involved in the creation of value, ***innovates costing system*** by providing a number of advantages such as: regrouping the activities in activity centers; delimitation of the components of the value chain by considering activities such as: design, logistics, production, marketing, services; developing deductively budgets, tracking the work-objectives relationship; tracking the achieved results at the customer level or product-client relationship, and not just at the product level.

The decision-maker, in order to act swiftly and to the point, in uncertainty conditions, opts for a certain decision-making model. A ***decision-making model*** *is a formal method used to make a choice and it requires both a quantitative and qualitative analysis* (Horngren, Datar & Foster, 2006).

To assess the activity performance, the managers use five steps in the decision-making process: obtaining information (on historical costs, other information); making predictions about future costs; choosing an alternative; implementing the decision; assessing the performances in order to provide feedback.

Schematic illustration of the decision model under uncertainty is as follows:



Applying the ABC method leads to identifying the causes of indirect costs embedded in the production cost and placing them on the cost-value relationship, but it is also used in cost management and performance management.

Cost calculation through the ABC system focuses its efforts towards two complementary orientations: the calculation and analysis of costs and establishing a performance measurement tool and has the drawback that it *overlooks the qualitative approach of production management and strategic approach* (Genaivre, 2007).

Practice has proved that ABC method loses its properties as a reliable instrument for allocating customer and product costs when the entity runs major operations. This factor has not led to the abandonment of the method, but to its development in ***three derived methods***: Time Driven ABC, Feature Costing and MBM (Management By Means).

ABC method development in a more simplified structure forms ***Time-Driven ABC*** (TDABC). Already applied in more than one hundred companies, TDABC method seeks a higher value from cost and profitability information, supporting a significantly lower cost for maintenance and development.

Essentially, TDABC works by understanding the effort amount required by the given transaction processing and, by attaching the cost of each specific transaction, manages to measure accurately the costs on activity (process), products, customers (and / or segments), channels (Dumitru & Calu, 2008).

Time-Driven ABC method *has the main feature that is easy to use, allows taking into account the complexity of consumption costs and measures the subtask cost* (Berland & Simon, 2010). Instead of identifying the resources used on activities, it identifies them on resource groups, which is the last stage of activity aggregation. However, this new approach offers the possibility of determining accurate cost driver costs, as it refers to estimating time units consumed even for complex tasks.

The method can be broken down into six stages and operates with two parameters: estimating the cost per time unit for a group of products and estimating the consumption of time needed for a group of resources. The decomposition of the six-stage method is as follows:

Stage1:
Identifying the resource groups that contribute to an activity
Stage 2:
Estimating the total cost of each resource group
Stage 3:
Estimating the normal capacity of each resource group in terms of working hours
Stage 4:
Calculation of unit costs of each resource group by dividing the total costs of those groups, at the normal capacity,in working hours
Stage 5:
Determination of the time required for each task based on the time drivers and activity characteristics
Stage 6:
Calculation of time driver cost by multiplying the unit costs of resources with the time required for the activity

Figure no. 2. Stages of Time-Driven ABC method
Source: own processing

TDABC approach involves, first of all, the estimation of the two used parameters, namely:

- ***estimating the cost per time unit for a group of products*** (work, service, etc.) refers to the following: managers will betake estimating practical capacity of the resources provided as a percentage of theoretical capacity, instead of interviewing employees on how to cover their time
- ***estimating the consumption of time required for a resource group*** is made after determining the cost of providing resources per time unit, and involves calculating the time required to achieve a unit of each kind of activity.

This new approach will shape each service as a process, by means of a time equation consisting of a time base, which is added to the time required to achieve a change of activity (Yves de Rongé & Cerrada, 2009). Time-Driven ABC method allows cost reporting using the principle of continuity in a way that reveals both the costs of activities and time spent on it. It provides managers with information on the costs of unused capacity.

Time-Driven ABC method operates with complex activities, consisting of several subtasks, each of these activities with a specific inducer, and the concept of ***time inductor***. These time inductors can take the form of continuous, discrete or binary variables, and are used in forming the equations of time and their normalization, i.e. eliminating redundant information

With TDABC method, in French specialized literature, two methods deriving from the classical ABC method are presented: ***Feature Costing*** and ***MBM (Management By Means).***

Feature Costing, initiated by James A. Brimson, seems a method detached from the basic ABC concepts, but by a more detailed analysis, it is observed that it is *an approach based on business processes*. *The processes are comprised of activities, which in turn are composed of operations* (Zelinschi), therefore, basic concepts are the same, with the only difference that it places in the forefront of the cost calculation the concept of "process" and not of the "activity". Brimson claims that ***feature costing*** method is a better reprocessing of activities and isolation of cost changes caused by product features.

Feature costing is based on three fundamental principles: process structure and labor amount causes a certain cost structure; cost variation is a direct consequence of the

process variation and the latter has different origins: their wrong execution, specific characteristics of products or services, customer demand, distribution circuit.

The implementation of ***feature costing*** method involves seven steps: identifying product characteristics; determining the activities associated with each feature and their sequence; cost calculation for each activity, as an average cost based on actual performance; determining the characteristics that entail process variations; calculating the variation level generated by these characteristics; attaching these features to the reference products; cost calculation of the product: after establishing a list of activities involved in the product in question, the average cost of each activity based on product features is adjusted and an adjusted cost eventually participating in the total cost of the product is obtained.

The applying scheme of this method is as follows:

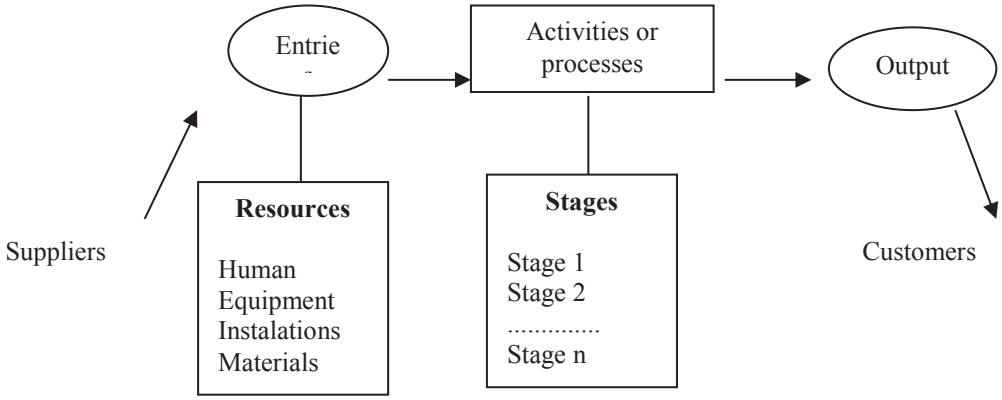


Figure no. 3. Modeling through processes provided by Feature costing
*Source:*processing after D. Zelinschi, *Genèseetévoluationsd'une innovation: la méthode ABC, http://www.strategie-aims.com/*

This ***feature costing*** method is rather a method that measures performance and control, rather than a method of cost calculation. Combined with other methods such as ABB (Activity Based Budgeting), it allows the entity to better understand and reduce variations that lead to predictable and controllable costs.

The feature costing method takes the concept of "activity" from ABC method, but its originality is that it determines the activity cost as an average real cost and then it allocates this cost to products based on the identified characteristics.

Another derived method is Management by means method known as MBM method. Unlike the founders of the other two methods derived from ABC: TDABC and FC (feature costing), who declared affiliation to the principles of ABC method, Jonson and Bröms, founders of MBM method, use a rupture strategy.

Jonson and Bröms' reasoning is based on the idea that the entity should be considered a living organism. For them, the cost management system is an integral part of all processes of the entity and calculating the cost is not just an accounting trick. Jonson and Bröms consider that the functioning of an entity cannot only be measured by quantitative indicators, they insist on "stopping excessive management of results, and focusing on resource management", their proper management generating the expected result. Jonson and Bröms emphasize that the MBM method ***(Management By Means)*** is opposed to MBR method (***Management By Results***). They propose a management focused on the means of production, on entries and processes, rather than on improving financial performance, what MBR requires. The delicate point of this method is the recognition and treatment of indirect costs on command lines. The procedure involves a preliminary classification of expenditures into three categories, depending on the

objectives: expenses that align to the workload of current business; expenses related to the functioning of the structures and systems; expenses that finance future development.

This method is distinguished by two specific elements - regrouping activities into three major processes: activities in progress, activities developed in the future and support activities; and it uses a particular cost object, namely the *control* or *commandline* (combination of product and customer).

CONCLUSIONS

Decision making process is the most important step in the functional architecture of an entity because all other management functions revolve around it: forecasting, organization, coordination, training, evaluation control. By the decision making process, the management expresses the option for the most convenient action of many possibilities, being an effective means of intervention in directing economic activity.

Personally I believe that the use of modern methods of information in decision-making can bring more competitive managers in any field. The entities' management began to focus on superior customer satisfaction and better management of "value chain" in the entity. The three main factors capable of affecting the two coordinates are: time, quality and efficiency.

I believe that to survive in the current competitive environment, entities had to provide value to its own consumers. Orientation towards the needs and preferences of consumers is the central point of cost management system. Activity Based Costing is a relatively new approach in terms of accounting and cost analysis, the method providing accurate and precise modalities of cost allocation.

The aim in the paper was to show that Time-Driven ABC, along with the other two methods derived ABC method is a method simpler conceptually, able to provide enough information capital of entities operating in the economic environment. Time-Driven ABC is a method that allows managers to directly estimate the need of resource required by each product, customer, or transaction, instead of allocating costs, first on activities and subsequently on the products or customers. First, *TDABC method is implemented in consultancy cabinet Acorn, where Steve Anderson is the creator member and Robert Kaplan is a member of the Management Board. Currently, it is probably already implemented in more than 200 enterprises* (Gervais, 2010). Based on the findings, I believe that it is necessary for managers to opt for a flexible, able to adapt to changing conditions and uncertainty entities currently operating.

In a study, I have concluded that the use of feature costing method allows a detailed understanding of the complexity of products and services.This method divides costs on activities and products based on product and service characteristics. Characteristics are significant issues that affect activity cost. The finality of ***feature costing*** method is to determine how processes vary, without the influence of specific characteristics of the products and services considered. Knowing this variation can give more knowledge in predicting costs.

According to the latest methods addressed MBM method I found in my work next idea underlying reasoning MBM method: Indirect costs are tracked and charged to the command lines in the intensity of effort, labor or resources requiring each line for each stated objective.

Personally, I believe that using the three methods, such as methods for calculating costs and the methods of information management, knowledge can be added to any entity operating in an unstable economic environment. Knowledge and implementation of the three modern methods can greatly assist in the management of an entity.

THE AUTHOR'S CONTRIBUTIONS

Personal contributions can be summarized as: revealing the state of knowledge and research in managerial accounting, emphasizing the important role it plays in the entity's information system; signalizing the importance of cost type information in management process and emphasizing the innovative role that costs play in decisional-informational process; the proposal for implementation of ABC (Activity Based Costing) type costing system in the entities open to new trends in information; emphasizing the peculiarities of less known methods, used internally - Time Driven ABC, Feature Costing and MBM (Management By Means) to encourage young entity managers in the Romanian economic environment to appeal to them in their managerial process.

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