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Căpuşneanu, Sorinel/I

Artifex, University, Faculty of Finance and Accounting

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# Research of the implementation factors of the ABC method in the steel industry of Romania

*Ph. D. Senior Lecturer Sorinel CĂPUȘNEANU*  
ARTIFEX University, Bucharest

## **Abstract**

*This article describes and analyzes the critical implementation factors of Activity-Based Costing method (ABC) in the Romanian steel industry in case of success or failure. Also, the article presents the successful implementation itinerary of ABC and the conclusions of worldwide specialty studies about adopting or not adopting this method.*

**Keywords:** *implementation factors, management accounting, organizational culture, Activity-Based Costing, reengineering.*

## **The critical factors of successful implementation of the ABC method**

The critical factors that guarantee successful implementation of the ABC method is concentrating around of two directions: internal and external. On internal level, we can remark the existence of four vital factors: the architectural projection of the ABC method, the proper implementation of ABC method, the importance of delivered data of the ABC method and internal support in the implementation of the ABC method.

1. *The Architectural projection of the ABC method.* The construction of the ABC method supposes the picking of a model that combines in a large measure the science, art and skillfulness, which succeeds in its realization. The transversal organization of the enterprises in the steel industry is one of the concepts which the ABC method completes the implementation circuit of the method. Alongside this process, the process dividing of the enterprises and its dividing on activities represents another concept specific to the ABC method. Also, management accounting as economic science is pronouncing when is taking about providing the general accounting plan and its adaptation to the specific of the enterprises in the steel industry of Romania, providing however the methodological stages that permits easily following of the whole circuit of accounting records during choosing administration period. It is saying that it is an art to know how to make accounting records and to understand the “secrets” of the management accounting.

We are in perfect agreement with the opinion of many professors, which affirm that, management administration is the best, the most interesting and fascinating from among the branches of accounting. The skillfulness of the implementation and its successful application of the ABC method suppose a certain experience in the field, solid knowledge and perfect understanding capacity of different aspects met during the unrolling activity.

2. *The implementation the ABC method.* The selection of the persons who's will occupy very important positions in an enterprise is important and vital because it must be chosen only these persons who's proving real abilities in the respective activities and very strong knowledge in the technology field of information.

3. *Importance of delivered data of the ABC method.* We must assure that all obtained information as sequel of ABC method implementation is serving to the final users. The accuracy degree of provided information is justifying in many cases the implementation of the ABC method. The way this information is used by the users is helping to realization of dashboards that contain indicators necessarily to analyses, based on the decisions of enterprise management. For example, the activity provided information can be used for: profitability analysis, process value analysis, unused capacities management, benchmarking, processes and activities budgeting, target costing, etc.

4. *Internal support for the implementation of the ABC method.* It is allowing the support of enterprise management or enterprise stockholders in implementation of the ABC method. Also, the personnel is playing an essential role in sustaining of the cause, about assuring the prosperity of all those that is unfolding activity for several years in the same place.

The external direction of assuring implementation of the ABC method aims finding some stockholders desirous to contribute to its development. This variant, unlike the internal variant, supposes recording of some major risk. Only in extreme situations it is good to appeal to external resources, being constrained because of resource insufficiency of what we dispose at one moment. It is recommendable to

appeal to consultancy firms in the area, specialized in implementation of the ABC method. Unfortunately, in actual situation, in our country does not exist such firms.

### **Critical factors that contributes to failure implementation of the ABC method**

In the specialty literature, the factors that contribute to failure implementation of the ABC method are counted as four: High work volume in collection of information that reclaim, the accuracy degree of provided data, absence of software, confusion in elaboration of other account books beside those from financial accounting.

1. *Hugh work volume in collection of information that reclaims the ABC method.* Most of the accountants are saying that ABC method supposes a vast work volume in data collection, transforming and execution of necessary situations for different final users. But what is the reality? First, we must think about a volume of data sufficient and significant for providing more precise information. What would be the level of describing of the data we should provide to accountants as result of data transformation? We have two situations: we choose a model of calculation very simplified and the risk of obtaining deform information is maximum, or, we choose a very complex model and the risk for resulting precise information is very high, but the transformation costs are the same. So, we are not opting for neither of two solutions. We will choose an intermediary situation based on a rational model that will evidence the relations between cost relevancy, information significance, data accuracy and flexibility necessary as result of register consumes at level of processes and activities, during more administrative periods. We must considering what we mist in the case of traditional methods as visibility, relevancy and accuracy of information from management accounting. In other words for avoiding a large volume of transformation information and other supplementary costs we must realize a cost calculation system which architecture to be oriented in function of final decisions.

2. *Accuracy degree of provided information of the ABC method.* This factor is connected directly from the previous one. And this one depends of orientation degree of the final decisions. We must retain in this context the famous remark made by the professor Robert Kaplan: "*It is better to be approximate correct than to be precisely incorrect*". We have two situations: one connected to provisional calculation, and the other one connected to absorption costing. In the provisional calculation, the work volume laid-down for it realization is mighty but it has to be correct. In other words, information must be precise for continuing with the second stage of absorption costing, where cost drivers used in the first stage mustn't change for not denature costs. We need very precise information in every moment.

3. *Absence of software.* Most of the specialists are thinking that without a adequate software we are not succeed to implement the ABC method, which from point of view of work volume it is quite complex. It knows very well, that 95% represents the laid-down effort to architectural realization of the ABC method and management behavioral changes and only 5% represents the laid-down effort to implementation of ABC method thanks to software. Initially it was believed that is absolutely necessary the presence of a new software. If we are thinking well the majority of software are created in a common language. Why is needed to spend another money to another software if we can adapt the old databases to what are we interested? The database manager which is a good programmer can succeed to correlate many data levels creating a program meant to adapt perfectly to the architecture of the ABC method. In other words we have two variants: we appeal to a specialized firm that create for us the needed software, or, we recourse to reprocessing the existent database accomplishing a conversion of data according to new requests imposed by the specific of the ABC method.

4. *Confusion in elaboration of other account books beside those from financial accounting.* Many people have been wondered if once we implement the ABC method, do we need the Master record book anymore? Of course we need it because the ABC method: "*is a translator inserted to extract general information and other data; it is used as an optic correcting eye-glass that is evidencing clarity*"<sup>1</sup>. After we know, the ABC method is an direct descendent of the full-costing methods (absorption) that is considering all direct costs and the overhead (activities) are allocated using specific cost drivers. The ABC method is using substitute cost drivers in the case of activities costs.

The ABC system is considered as an interface between the existent data and instruments that pursuing to be processed with its help. The experience accountants think that ABC system, once implemented and properly maintained in function is facilitating enormous the collecting and processing work of the obtained information. Everything depends in the last resort of knowledge degree and accumulated experience in exploitation of the activity-based costing system.

Most of the specialists are agreed with the fact that implementation of the ABC method goes beyond activities identification and cost drivers analysis. The easiness of implementation is not one of the

advantages of the ABC or ABM method, after case. For a successful implementation it is necessary a huge data volume and an enterprise must understand the strictness of needs of the ABC method implementation. The value contribution that ABC method is providing can vary if we are considering the three factors: volume, resource usage and competition pressure. The enterprises must determine in which moment is profitable to implement the ABC method and what is its influence over the whole value chain.

When we are planning the organization of ABC system we must consider first the accuracy level of output and second, the necessary precision. Only maintaining in function the ABC or ABM systems, after case, it can bring value to an enterprise. The size and precision vary according to organizational needs. Adoption of the ABC method reclaims options and compromises. The ABC/ABM method must balance these compromises between four major needs of the clients: high quality, low costs, reduction of deliveries, productive innovation. The enterprises that follow the strategies based on innovation will need compromises. In the past, activity analysis and ABC method were used for realization of lower costs, the TQM method was used for realization of improvement quality and JIT or TOC were used for realization of reduction of returned times of the products.

A research made in 1998 by the Ohio State University has been revealed the business logistics penetration in the interior of the ABC method. Adoption of the ABC method is recent, half of the respondent number examined in the study have been used the ABC method less than 2 years and 87% have been used this method for less than 5 years. The main motivation in adoption of the ABC method constitutes the identification of customer profitability and obtaining of an informational cost improvement. The objections referring to adoption of the ABC method have been included: high costs, weak match with the organizational strategies or business sectors or perception that ABC method is difficult to implement.

Another study made in Australia in 1988 showed that un-adopting reasons of the ABC method is owing of misunderstanding of organizational cultures, absence of adequate managerial projects, respective inadequate software instruments. The common traps of those two methods ABC and ABM are including: absence of a direct connection with BPR or TQM, inexact consultancy, involvement of employee, wrong implementation, and absence of managerial support, misunderstanding of ABC principles, absence of objectives, and absence of training. In the same study it has been showed that managers consider decision as important when the cash-flow is superior to the ABC method because this approach embodies notions of avoidance, profitability and variability of outputs.

Presently, the adoption of the ABC method follows often one of the three approaches: costs, reengineering or hybrid. The costs approach give possibility to firms to understand rapidly the cost of specific activities and factors of resource consumes. The reengineering approach is more profound and provides an interior look much better over elements, respective of cost drivers and activities that can be aim in its improvement efforts. A hybrid aims only high costs of activities or only those with higher potential of cost reduction.

Insatisfaction and discontent bend of obtaining results of implementation of the ABC method will appear when enterprises know deficiencies of the method and not assure the necessary resources for successful implementation of the method, not considering the implementation rules. The weak results can be caused by defective projection of the ABC system that can distort in this way, costs. The common cause of distortion is assuming costs media that is constant for all activities. Some authors are sustaining that ABC works the best as self standing system, meanwhile others authors are sustaining that such systems are destined for failure. Too many details in an ABC model leads to an overload of information that will be difficult to maintain and will generate weak results. The ABC implementation team should start from the opposite pole of decision, then to estimate the necessary accuracy level and finally to interpret the ABC method first as a social-technical tool than a simple measure or calculation scheme.

Another approaching way of implementation of the ABC method would be from the IT point of view and less from its technical perspective. The enterprises are striking often of barriers from functioning point of view when are implementing the ABC method based on innovations from IT domain. For resolving the problems of IT implementation, the enterprises are changing the software. Cooper and Zmud have been proposed a software specific for implementation based on Information Technology that presents six stages: initialization, adoption, adaptation, acceptance, routine and infusion.

Some sectors of industry are adapting better the ABC method than others. If is wanting adoption of the ABC method, enterprises would consider first the organizational structure of the firm then industrial structure and enterprise strategy. "The activity-based costing system produces a very large impact in situations which overhead and support are very high, and where the way of products, number, category and specificity of customers or product variety are very high"<sup>2</sup>. "Activity-Based Costing system can not be

appropriate for those branches of industry that manual labor is present in big proportion and overhead are small”<sup>3</sup>.

In comparison with met obstacles in the implementation of the ABC, bigger problems have been registered in the case of ERP<sup>4</sup>. This is the common point of view of many specialists from Europe both United States of America. The ERP implementation caused to enterprise delays or even abandonment of ABC/ABM method fearing some incompatibilities between systems. A major initiative has been undertaken by the Arthur Andersen in 1998 regarding characterization and classification of knowledge about ABM method and the best practical application of it. This study identifies six stages of the ABM method implementation, the key stages in every phase, and vital actions, common for all phases. The author mentions a series of enterprises that are advanced from the point of view of ABC or ABM implementation methods, as: Caterpillar, Charles Schwab and Company, Marmon Keystone, Chrysler Corporation and Northeastern Utilities.

One more advanced model of the ABM<sup>5</sup> method has been developed for determine the implementation degree and it successful operation. The ABM method is influenced by the external and internal medium of enterprise. The external medium is determined by the competitors, customers and suppliers, meanwhile culture, managerial necessities and technology are determined by the internal medium of enterprise. Methodology, technology and applications of ABM method as it integration level in rapport with other initiatives are adopted by the management, they being influenced by the internal medium of the firm.

### **Maintaining in function the Activity-Based Costing (ABC) system**

Maintaining in function the Activity-Based Costing (ABC) system starts from respecting the successful factors in it implementation and avoiding the factors that lead to it failure. The majority of the specialists are embracing the idea of continuous refreshing data contained in the enterprise data base. Also, the operating systems installed on computers and the Activity-Based Costing system must be verified at certain periods of time. In case which we are having troubles with the configuration of the Activity-Based Costing system we must verify once the implementation crossed stages and identify the dysfunctional causes. With other words, we proceed to verification of the implementation way, of stability/instability of the system, to “rerunning” the system after making some modifications or even adding other systems that beside ABC method contribute to a better functioning of the implemented system.

All enterprises that have been successfully implemented the ABC system from the first time have been improved the activity and cost drivers dictionary. They have been done all calculations about new modifications. Relaunching or reactivating the ABC system is not always a pleasant surprise, knowing the huge work volume that it supposes. If has been reached in the stage which the ABC system is not working correctly, then we must review the methods and assumptions used in initial running of the system that can be incomplete documented which determine reassuming the anterior implementation stages.

After our opinion, the most difficult thing constitute the preparation and “reloading” of data, task that can be unfavorable, especially when the effort for implementation of the ABC system is let on the employees. Often, loading of data necessary to ABC method comes from multiple data bases, unconnected or not compatible or even different software languages. But these obstacles can be eliminated automatically with the computers help and much more rapidly it can be effectuated if the enterprise in connected to the internet.

In the situation that we use data bases integrated systems, also us as the others competitive enterprises are wondering: How often do we have to refresh the data base? Majority of the enterprises from the United States of America as Europe are making the monthly or trimestrial update. It means that used software, eventually a permanent “*production system*”. It must be knead able, repeatable and trustful. In many cases, the enterprises are modernizing their software semi-annual or unequal periods, recognizing the fact that some of data are becoming useless once with the passing of time.

In practice, not all data are using into a system must be updated. The ABC system is constructed on modules. An accountant must introduce data into the software, taking over the data from documents (day book, activity list, cost drivers dictionary etc.) data that are centralized on processes, activities and then on products. After it is established precisely the resources that revert on processes and activities, it proceed to allocation of costs using cost drivers selected from separated lists into the software and finally determine the effective cost production on products. The actual software performances lead to obtaining of proprietary account on activity, products, strategic segments, customers etc.

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