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Căpuşneanu, Sorinel/I and Lepădatu, Gheorghe/V  
Artifex, University, Faculty of Finance and Accounting

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# Possibilities of Implementation of the ABC-Method (Activity-Based Costing) in the Enterprises of the Steel Industry in Romania

Senior Lecturer Ph. D. SORINEL CĂPUȘNEANU  
ARTIFEX University, Bucharest

Senior Lecturer Ph. D. GHEORGHE LEPĂDATU  
DIMITRIE CANTEMIR Christian University, Bucharest

## Abstract

*This article deals with the possibilities of implementation of the Activity-Based Costing method in the enterprises of the steel industry in Romania starting from the analysis of the particularity of this branch. Those factors are highlighted, on which the successful implementation of the ABC method worldwide is based. Four main stages of implementation of the ABC-system within the enterprises of the steel industry in Romania are proposed and the authors' conclusion in this respect is presented.*

*Key-words: Activity-Based Costing, steel industry, implementation, project, production.*

In practice, very often confusion is created between the terms *installation* and *implementation*, both at the level of the functional departments and at the level of the company management. Therefore it is very useful to clarify these two concepts in order to have a very clear image on the contents thereof. We speak about *installation* when we organize the interface between an information programme (software) and our data base existing in the company. The leader of the ABC-project team is the one who must know the correct meaning of the concept of *implementation*, since he is at the same time the one who establishes the wrong or correct pronunciation regarding this term. We speak about the implementation of the ABC-method (Activity-Based Costing), when we prepare the „ABC-project”<sup>1</sup>, which will create the change that is so much desired by the company management. The process of implementation of the ABC-method is rather „an art” than science. The beginning of the millenium brings along a new generation of managers, much more practical and open towards the use of modern costing systems that supply much more reliable information, necessary to make adequate decisions. The art of implementation of the ABC-method will become in future the management science for the next generations of managers.

## Possibilities of implementation of the ABC-method in the steel industry

Most managers in Romania asked themselves: *Is the implementation of the ABC- method (Activity-Based Costing) possible in the enterprises of the steel industry?*

The steel industry in Romania has an important traditional activity with obvious disadvantages given by the great consumption of energy as well as by the high demand of raw materials from abroad. Nevertheless, the present and future of the Romanian industry relies very much on the steel industry. The reorganization and privatization have reduced its activity but have significantly improved its efficiency and competitiveness in this field of activity. The tendency favoured by the growth of the machine-building industry in Romania – the main branch that benefits from the steel production – is given by this sector which thus is capable of enhancing the contribution to the economic development. Undergoing a vast program of investments and constructions, the steel industry will be able to ensure favourable conditions for the increase of its production on medium and long term. As a matter of fact, about 20% of the resources of steel products (domestic production and import) are destined for these activities (in about equal proportion).

From the macroeconomic point of view, the steel industry has some peculiarities which give it long-term sustainment but also a limitation of the growth potential, namely:

- the steel industry has a production that is sufficient to cover, in principle, the domestic demand, the domestic consumption being lower than the production;
- 1       • nevertheless, this branch is mainly orientated towards the export, resulting in the situation that a great part of the domestic demand is covered from the import;
- 2       • the steel industry has a high degree of production integration, fact illustrated by the high degree of its own consumption of steel products;

3 • besides, it is characterized by a high degree of concentration; the first five companies providing about 65% of the turnover of the branch and it must be highlighted that each of these concentrates the production of a certain sub-branch (steel, aluminium, special steel types, pipes);

4 • this industry relies on an important amount of raw material and half-finished goods from the import;

5 • the steel industry is one of the few activities with commercial surplus.

According to the specialists' opinion, there are very many factors that lie at the bedrock of the successful implementation of the ABC-system (Activity-Based Costing) in the steel industry of Romania. Based on a vast study carried out in the speciality literature and taking into account the opinions of famous experts, seven main factors have been pointed out, namely: *the management's support, the staff training, the knowledge sharing, the resources, the connection between the reward and evaluation of performance, the forging of technological information, the concern for the implementation of other systems.*

The speciality studies have proved that the management's support is the main factor in the successful implementation of an accounting system and especially of the ABC-system (Activity-Based Costing). *Why has the staff training been mentioned firstly as main factor?* The reason is very simple. The successful implementation of the ABC-system can be carried out only with the help of the employees, since they represent the basis of the pyramidal organization. In other words, any innovation must rely on a very strong management support in order to be successful. The management must concentrate its efforts on the establishment of the necessary resources, of the goals as well as on the formulation of efficient strategies for the implementation of the ABC-system in the companies of the steel industry in Romania. The management must encourage the use of the information supplied by the ABC-system, especially by the communication with its employees.

Training greatly helps the company staff to understand the difference between the ABC-system (Activity-Based Costing) and the other existing, traditional cost systems such as the stage-based method or the order-based method. In this respect we present some of the advantages of the ABC-system:

1. The obtained production costs are much closer to reality than those obtained in the case of the methods traditionally used in Romania and this is due to the use of a very advanced production technology (an essential and successful factor of the ABC-method), where the indirect costs have the greatest share in the overall production costs.

2. At present, in most of the companies, including the steel companies, an increase of the unproductive activities (non-value) can be noticed, and the ABC-method permits the allocation of the majority of indirect costs to manufactured goods, performed work or rendered services.

3. The ABC-method focuses its attention on the real nature of cost behaviour, thus helping to identify the non-value activities (which do not add value to products).

4. It uses multiple cost inductors that reveal the direct relationship cause-effect between the expenses to be allocated and the allocation bases employed.

5. It is flexible in the cost allocation to the manufactured goods, performed work or rendered services, customers or to different strategic segments.

6. It resorts to the re-structuring of the supporting activities within the main activities. Compared to the method of expenses centres, the latter did neither allow the re-structuring of activities according to transversal processes nor did it surpass the limit of the established responsibility centres. Besides, the ABC-method does not provide auxiliary centres, the costs of all the centres being charged on the costs of the goods without secondary allocation.

7. It uses dash-boards built on the basis of some carefully selected steering indicators, thus supplying reliable long-term information, appropriate for making long-term strategic decisions.

8. It is compatible with other management instruments.

9. It has the possibility to adapt the General Plan of Accounts in our country to the specific nature of the ABC-method within the companies of the steel industry of Romania.

Besides, staff training encourages the knowledge sharing, offering at the same time a superior economic measurement of information. The staff training should be achieved both on the vertical and on the horizontal of the management system, from the manager to the directly manufacturing worker. This training can be performed by: lecturing, discourses, explanatory projects or training on the spot, performed by experts.

Regarding the knowledge sharing, the speciality literature refers to two manners lying at the extremities. The first refers to the operating manner of the ABC-system that is known thoroughly only by accountants or specialists (accounting department), in this situation existing the imminent danger of being used only for their own purposes. One of the main reasons of the failure of the ABC-system implementation is that accountants (specialists) are the owners thereof and they do not share it with the others (non-accountants / non-specialists). The second situation refers to the manner of *sharing*<sup>2</sup> among accountants and non-accountants, fact that surely leads to the successful implementation of the ABC-system (Activity-Based Costing). From this point of view, not only accountants or specialists but also the other persons (the employees) must be considered as owners of the system. All the employees of a company should be involved in the initial decisions, to invest in the method of Activity-Based Costing, in the project and implementation thereof. Thus the chances of the ABC-

system to be promoted and supported by non-accountants or non-specialists will grow significantly and will be successful.

The process of planning and implementation of an ABC-system implies the use of adequate resources by the companies of the steel industry in Romania. The necessary resources include time and the agreement of the accountants, of the management and of the productive workers. A study published by IMA<sup>3</sup> shows that the implementation of the ABC-method takes a much longer time than has been estimated at the beginning and an average period of 3 years is needed for implementation until the effective use of the system is achieved. In order to establish the period necessary for the implementation, the most important organization factor of the management accounting, namely the company size, shall be compulsorily taken into account.

A study carried out by Shields and McEwen shows that for the survival of 143 companies, it was very important to have the adequate staff resources (some very well trained and qualified employees), which led to the successful implementation of the ABC-system. Other factors such as: external consultancy and commercial software (own) have turned out to be less important for the successful implementation of the ABC-system, since they contribute to a smaller extent to it.

According to the same studies performed by the above-mentioned authors, it is obvious that the choice of the software as information system is important only for specialists (accountants and the company management). For the other category of employees, the external consultancy and respectively the existence of the information system is not very important and moreover the guarantee of the successful implementation of the ABC-system. Starting from the previous factor, the studies of the two authors, Shields and McEwen, show the importance of the connection between the reward, the evaluation of performance and the implementation of the ABC-system. This is achieved by itself because the employees pay more attention to those things which provide welfare. This prosperity is influenced just by the system used to evaluate and reward the employees. If the employees are convinced that the ABC-system successfully represents their interests in the performance evaluation, then they themselves are motivated that this system should be successfully implemented.

In order to survive a very tough competition, many companies resort to *forgery* or *creation* of technological information that does not exist in reality. Only 64% of the enterprises have recorded a score above the average in case of use of real technological information, as compared to 36% of the enterprises that do not use them or „create” them. The implementation of the ABC-system would be much easier if, regarding the company technological information, it included the following characteristic features: the better integration of the used information sub-systems, the friendlier capacity to question the users’ demands, available data regarding the sales, the costs and performances recorded in the last 12 months and updating of all the data of this kind.

According to a recent study performed by the „Cost Management Group” from IMA, 62% of the companies trying to implement the ABC-system have not succeeded yet in reaching that stage of complete use due to the concern for the implementation of other systems already in progress. Many companies assert that they do not possess enough resources to implement the ABC-system, because of their need to implement other systems such as TQM (Total Quality Management), JIT (Just-In-Time) or other systems that correspond to a greater extent to their real information requirements.

### **The Implementation Stages of the Activity-Based Costing Method (ABC) in the Steel Industry of Romania**

Before starting the implementation of the Activity-Based Costing method (ABC), any manager in the steel industry would ask himself:

- *How can I pass from a traditional method such as the stage-based method or the order-based method to a much more advanced method such as the ABC method?*

- *How shall I start the implementation? How do I reach that what I want to implement?*

The answers to the above questions can be summarized in the route to be covered in order to implement the ABC-method, as follows:

**Stage 1.** Formulation of goals. Here is a set of questions formulated by the management of a company in the steel industry:

Question	Answer - Company in the Steel Industry
What is the main goal in case of the ABC method?	The goal is not a single one. Among the goals we can mention: obtaining accurate information regarding the costs and not only, flexibility, competitiveness, extension of the market share, etc.
Why have we decided on this method?	The advantages of the method represent the forte in the choice of the ABC method (Activity-Based Costing).
What are the advantages and disadvantages of this method?	The above-mentioned ideas highlighted in the paragraph concerning the possibilities of implementation of the ABC method in the steel

	industry of Romania have been taken into account.
What changes can this method bring about in the companies of the steel industry?	There are many changes and on several levels. One of the organization factors refers to the transversal <sup>4</sup> organization of the enterprise.
Are the end-users of the information satisfied with the accuracy of the data supplied by the ABC system?	Taking into account the manner of calculation, by the suitable allocation of the activity costs to the products, on the basis of the cost drivers, the obtained information reflect a cost that is much closer to reality. This cost can be used in the analysis of the steering indicators, used in the company dashboard that lies at the bedrock of making efficient decisions by the company management.

After the company management has validated the answers to these questions, it will be probably determined to proceed to the working out and communication of an operation plan (the so-called *ABC project*) by which the whole enterprise will be involved, starting from the workers to the management.

**Stage 2.** The drawing up of the organization chart according to the transversal organization of the company. In this organization chart there will be included the functional departments or offices grouped according to processes and within the processes, the component activities. A selection technique will be used, meant to reduce the too large number of activities, possibly a reorganization of the activities within the processes. The detailed level of the operations within the activities should not be too deep, but also not too scarce. On the basis of questionnaires collected from the company employees, the centralized information is analysed by the ABC project team and, based on it, a dictionary of the most important activities is drawn up preliminarily. Besides, data on the cost drivers are collected. At this stage, the following centralizing documents are drawn up: *the activity list (catalogue)*, *the cross matrix activities/offices*, *the activity list on strategic segments*.

**Stage 3.** The identification of the possible difficulties met after covering the two stages and the search for future opportunities. In connection with the two aspects, a parallel table containing the following items is drawn up:

Aspects	Answer – Action
1. If the two stages have developed according to the expectations and no problems have occurred	The other stages left until the successful implementation of the ABC method are covered. Further on, the goals are chosen, that will have priority in the new changes necessary for the implementation of the ABC method within the companies of the steel industry. All the established goals will be turned into actions meant to achieve the desired changes in the internal and external environment of the company in the steel industry: the cost determination on strategic customer segments, the determination of much lower costs on the manufactured goods, performed work, rendered services, etc.
2. If problems have occurred after the covering of the two stages	The causes of the nonconformities are searched for. Each stage is analysed carefully and efforts are made to find the causes that contributed to the occurrence of problems, by using different specific diagnoses.

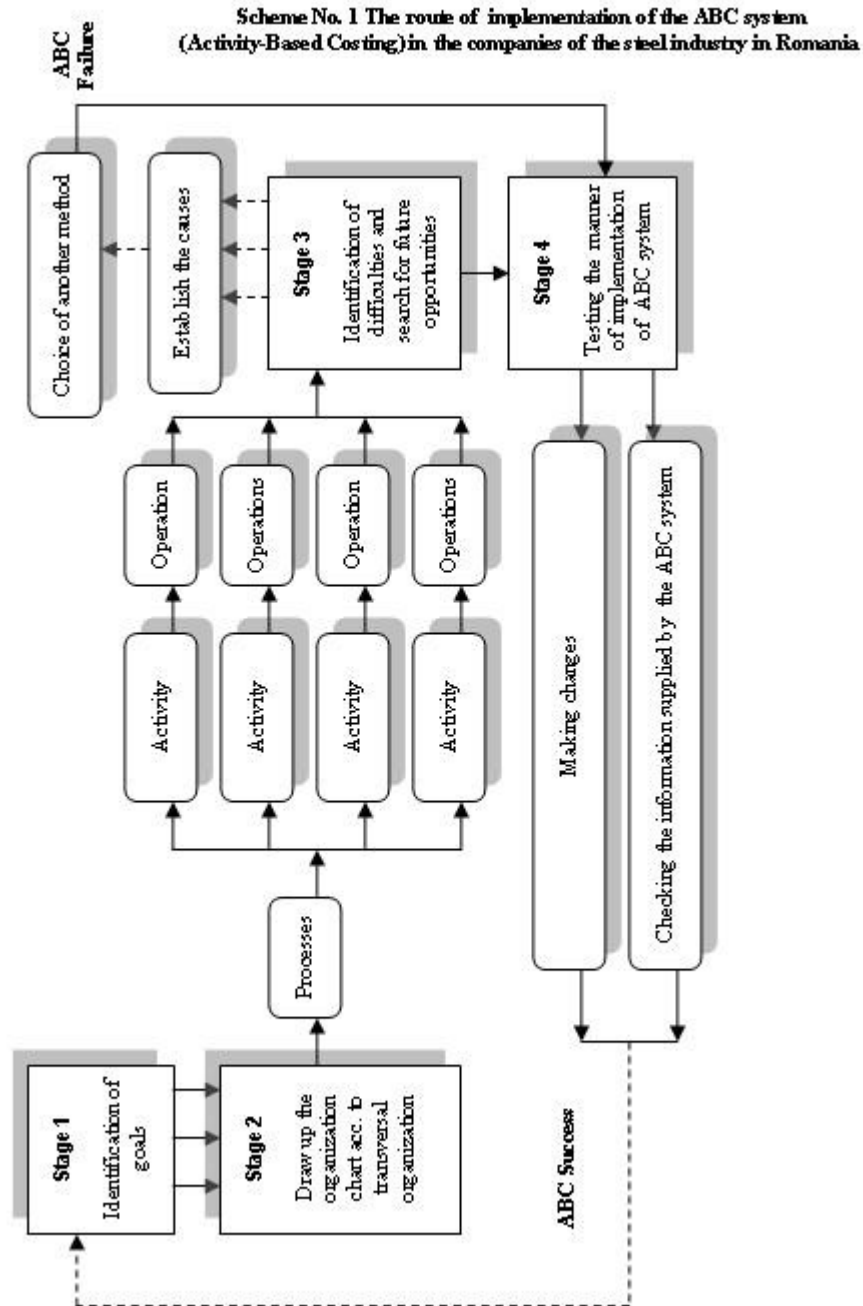
This stage is of a special importance because it represents that point which can lead us to a successful implementation or to the failure of the implementation of the ABC method. We must make the decision if we continue the implementation of the ABC method (Activity-Based Costing) or if we turn to another method.

**Stage 4.** Testing the correct implementation manner of the ABC method using the information supplied by means thereof. On this occasion, the impact of each initiative, action or project is tested by recording the saved costs as a result of their application or avoidance of their application, the income obtained by the correct application of the activity management principles. Depending on this stage, certain changes are going to be made. These changes can be of various kinds: product designing, cost planning, change of the employees' attitude, team cooperation by exchanging visions and opinions regarding the good development of the activity, the hierarchic reorganization, the change of the suppliers' and customers' behaviour.

Gary Cokins, famous expert and author in activity-based cost management, proposes an *implementation route*<sup>5</sup> to the ABC method by covering a number of 10 stages. The author's point of view is an important one since he laid the foundations of the implementation of the ABC/ABM system in many world-famous companies.

In the study performed by us we resorted to the simplification of the implementation route of the ABC method in the enterprises of the steel industry in Romania because a detailing by increasing the number of stages

would have led to the creation of a much too complicated image of covering the whole process. The whole circuit covered in case of implementation of the ABC method is presented in scheme no.1.



Based on the facts mentioned and proposed by us, we plead for the Activity-Based Costing (ABC) method, which can represent the ideal solution for the future of this very important branch of the Romanian industry that is at present in a stage of economic boost.

References:

- [1] ABC Project – generic term established by the team that surveys the implementation of the ABC method.
- [2] sharing –concept used in American literature to describe the manner of distribution among the members of a community.
- [3] IMA – Institute of Management Accountants.

[4] Căpușneanu Sorinel, Lepădatu V. Gheorghe, „*The ABC Method (Activity-Based Costing) and the Transversal Organization of Enterprises in the Steel Industry of Romania*”, *Metalurgia Internațional*, no. 10/2008, Editura științifică Publishing House F.M.R., pp. 78-80.

[5] Gary Cokins – *Activity-Based Cost Management – Making it work – A manager’s guide to implementing and sustaining an effective ABC system*, The McGraw-Hill Companies, Inc., 1996, pp.134-137.