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To Link this Article: <http://dx.doi.org/10.6007/IJARAFMS/v5-i3/1806>

DOI:10.6007/IJARAFMS /v5-i3/1806

Received: 18 July 2015, **Revised:** 21 August 2015, **Accepted:** 30 August 2015

Published Online: 23 September 2015

In-Text Citation: (Rof & Capusneanu, 2015)

To Cite this Article: Rof, L.-M., & Capusneanu, S. (2015). Increase the Performance of Companies in the Energy Sector by Implementing the Activity-Based Costing. *International Journal of Academic Research in Accounting Finance and Management Sciences*, 5(3), 181–195.

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Vol. 5, No. 3, 2015, Pg. 181 - 195

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Increase the Performance of Companies in the Energy Sector by Implementing the Activity-Based Costing

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Abstract

This article highlights the increasing performances as result of implementation stages of the Activity-Based Costing in the companies operating in the energy sector in Romania. There are presented some aspects of the usefulness of applying the Activity-Based Costing in the energy sector and the advantages it offers compared to traditional costing. There are also outlined the steps for applying the Activity-Based Costing and its implementation in the largest hydropower producer in Romania. The article concludes with the implementation results of Activity-Based Costing and the authors' conclusions on the usefulness of its application for increasing performances within specific energy companies.

Keywords: Activity-Based Costing, Implementation, Energy Sector, Costs, Global Method, Performance, Cost Drivers, Information

Introduction

Background of the Study

Changes that have occurred in the energy sector and the need to obtain relevant information in decision-making process, made necessary rethinking of the costing system applied by companies active in this sector. In terms of economic and financial crisis manifested in Romania, energy companies must find ways to survive and reduce costs; ensure continuity of activity in this sector with strategic role for the Romanian economy. Therefore, measures are required to improve the informational system of these companies to ensure operational tracking of costs. The article refers to the increase of performances through analysis and implementation of Activity-Based Costing within companies in the energy sector.

Aim and Objectives

The main objectives of this article is to evaluate the possibility of implementing Activity-Based Costing at an electricity-generating company and highlighting the advantages that it provides compared to other traditional methods already used. In specialized literature, most specialists have identified the Activity-Based Costing as a suitable method for obtaining better performance, allowing calculation of a relevant cost, calculated on a product/service-consuming activity that consume resources. To achieve the implementation of this method,

the basic steps required and highlighting the achieved results in management accounting will be applied.

Literature Review

Context of apparition of the Activity-Based Costing is marked by the large volume of production and low product variety, which led to the application of traditional methods such as: global method, commands method, standard cost method etc. In 1960, the accountants at General Electric, confronted with a high volume of indirect costs. Because of this, they decided to use for the first time the concept of activity to describe costs caused by production steps, inventing a system which relied on activities to identify the costs.

In the '70s and '80s the industrial superiority of the United States of America decreased due to the need to develop new procedures for the calculation of costs, in the conditions that indirect costs have seen a significant share in the production cost compared to direct costs. The origin of the Activity-Based Costing is identified in the USA in the late '80s, in the paper "The hidden factory" (Miller and Vollmann, 1985). The promoters of ABC have studied critical sectors and common costs, and have come to the conclusion that decisive step for indirect cost control is to develop a model to detail and design the causes of those costs (Ebbeken *et al.*, 2000). The apparition causes of cost calculation activities were: changes in strategic positions of entities, changes in demand for management information, flaws of traditional calculation systems. The first attempt to build a cost calculation system is attributed to American specialists (Kaplan, 1998; Cooper and Kaplan, 1998). Their efforts were summed up to transposition the implementation of direct reference quantities with dual function, elaborated and developed later in the price calculation of the cost plan for production sectors, auxiliary sectors and places. In this direction and other specialists have expressed similar concerns over the development and application of ABC (Porter, 1985; Lorino, 1997; Lebas, Mevellec, 1999; Cokins and Hicks, 2007). According to studies carried out by specialists in the field of managerial accounting ABC helps in refining the system of individual identification of costs by activities as fundamentals of cost object (Horngren *et al.*, 2009).

The ABC represented one of the challenges to which it was exposed the calculation of costs when it felt the need to eliminate waste in all areas of spending, declining cascading and imputations together seeking to maintain relationships between costs and causes that they have determined (Bouquin, 2004; Cokins and Capușeanu, 2010). In the European context, the ABC consists in placing between the responsibility centres and products of an intermediate category: calculation of the costs of the activities offered by the different centres and the determination of the proportion in which such products using such activities in order to obtain a more reliable assessment of the cost of products (Tabara and Briciu, 2012). Very important are the researches on the budgeting and development of systems based on the centers of responsibility relating to managerial accounting (Rachișan *et al.*, 2010; Groșanu *et al.*, 2009). Empirical researches conducted on the effectiveness of the ABC revealed its benefits by supporting continuous improvement process of the activity, by developing methods for determining the actual costs, by increasing the level of financial performance.

Research Design and Methodology

This study is based on a qualitative scientific research since involves an interpretive approach of studied object, it is subjective and seeks an in-depth description of relevant issues based on literature. The work describes rather than in-depth in width, insisting on the benefits

of implementing Activity-Based Costing at the level of a company producing electricity. The research is intensive rather than extensive, placing more in the context of discover special features that the implementation process is presenting at the level of an entity with this specific, than in that of verification. The central objectives of the scientific approach are built on the following areas of research: presentation of a new system of calculation and tracking of costs in the energy sector, the Activity-Based Costing and its adaptation to the specific of the sector; demonstrating the opportunity of its implementation and effects felt on the decision-making process; formulating recommendations on the interpretation of the results obtained.

To achieve these goals we will check two hypotheses formulated:

H1. Is the successful implementation of Activity-Based Costing in energy companies in Romania possible?

H2. Does Activity-Based Costing contribute to the increase in the performance of companies operating in the energy sector?

Investigative tools used in the management of this scientific research were analysis (assessment of information, ideas, concepts and primary keys recognition, establishing of relationships between them) and synthesis (presentation focused, consistent and easily understandable information about the studied subject). The instrumentation of target objectives involved and compiling of a comprehensive case study conducted at the level of the largest hydropower producer in Romania in order to achieve the desired purposefulness discovering the advantages offered by the implementation of Activity-Based Costing in the decision-making process of an producing energy company and the way in which this costing system influences the performance of the company.

Activity-Based Costing Implementation

Stages of Activity-Based Costing

Using the ABC approach involves, earlier to actual implementation, cross-company reorganization and identification of support activities. Basically, apart from consumption of raw materials and labor, which can be easily tracked, all other activities can be considered support activities. Support activities are all intangible activities that accompany the product (Burlaud and Simon, 2000). These activities are often confused with auxiliary activities. They can take place both inside and outside of the company and restore the productivity and development of the basic functions of the company. A sensitive issue that should be taken into account is that the majority of the resources used by support activities are not used proportional to the volume of production, and this can lead to errors in the calculation of costs. Activity-Based Costing shows that the stakes in achieving superior performance can be influenced by redefining the organization of company. In order for a company to become more competitive and more reactive to customer requirements, it must bear in mind two things: the reduction of the life cycle of products, works performed and services rendered and broadening the product mix offered to customers. Both issues involve a type of flexible and evolving organization, as is the proposed transverse of ABC.

Transversal cut of the company follows logic of finality and cooperation to describe the object of the actions that are determined internally for organization (Capuşneanu, 2006). Its achievement is necessary for a regrouping of a large number of actions and operations, in accordance with a methodology developed in several stages, this stages being settled on the specifics of the company.

In the literature are numerous approaches to the ways of implementation of the ABC, each author streamlining its operation into a number of stages. Thus, some authors (Ebbeken *et al.*, 2000) consider that the organization of cost calculation of processes/activities involves three stages: identification of activities/processes and establishing hierarchies; determining the cost drivers and quantitative parameters structures; calculating the odds of process costs. Other authors (Capusneanu *et al.*, 2010) consider opportune the organization of calculation in four, five, six or even more stages. In the opinion of several experts, at a conceptual level, the implementation process of ABC involves the following stages: 1. identification and analysis of activities; 2. evaluation of the resources consumed by activities; 3. determining of cost drivers; 4. the regrouping of activities that have the same cost driver in collection centres; 5. calculation of the cost components of the product, work or service; 6. the calculation of the production cost of the manufactured products.

Activity-Based Costing vs. Traditional Methods

Optimizing management accounting and cost calculation in the energy sector depends on a number of factors such as: enterprise profile and size, organizational structure and the specific of production process, the degree of technology, primary resource type used, but also the upgrading of computing and tracking cost system. This upgrade is a difficult process because in addition to the deficiencies of the current managerial accounting system, there is certain rigidity among managers, on the idea of adopting new methods of calculation. Organization of managerial accounting and cost calculation in the energy industry companies is done mainly according to global costing method, but this system does not fully meet the calculation objectives. For those companies that register a high volume of fixed costs, such as those in the energy sector, applying a traditional costing method leads to accurate allocation of direct costs on production, and at the same time of the indirect ones without their boundary and rigorous analysis, especially in the absence of rational criteria of allocation. The ABC system provides a relevant impairment of costs, practicing a realistic distribution of both direct costs, and especially indirect ones based on cost drivers, eliminating conventionalism, as possible. Activity-Based Costing seeks to allocate indirect costs to production costs on a more real way than simple volume production and at the same time, tends to show the relationship between indirect costs and the activities which generate them (Briciu, 2006). The essence of applying the Activity-Based Costing is not cost calculation, but determination of its origin on causal relations background. ABC system focuses on eliminating unnecessary costs, and not only on their detection and reduction, seeking also the knowledge of the phenomenon that generated that cost. If direct costs are affected unambiguously on the production cost, according to ABC, the analysis of indirect costs is much finer than in traditional methods of complete costs (Grandguillot and Grandguillot, 2010).

Classical methods are oriented to the past, the supplied information having a historical character, without giving much attention to forecasts. The information provided by conventional methods, lose their relevance due to increasing share of indirect costs in total business costs and the high cost of collecting and processing information (Radu, 2010). The traditional methods of cost calculation are based on cropping the company in responsibility centers, while ABC offers a cross-sectional organizational rearrangement. It resorts to regrouping support-type activities within the primary activities, between main and partial activities being a partial or total concentration relationship.

Applying ABC in the energy sector provides enhancement of the classification of expenses not only by their economic nature, but also by purpose, and creates greater

possibilities for analysis on those three broad categories of activities: generation, transport and supply, there can be calculated concentrated performance indicators in synthesis situations that can provide useful information to management team, there can be made predictions and evolution scenarios. All these involve changing an existing mindset in Romania and increasing responsiveness to computing systems that have proved successful in other sectors of the world economy.

Implementation of Activity-Based Costing in a Company of Energy Sector

A company from the energy sector with homogeneous production (electricity production) applies the comprehensive cost calculation method. This entity has: four main (basic) areas (sections) of expenses: S1, S2, S3, S4; two auxiliary sections providing maintenance for the entire hydroelectric development: the workshop dealing with the equipment tour checks (EC) and equipment repair workshop (RW) and an administrative and leadership sector. Within the four main sections, electricity is produced in strict compliance with parameters, technical and structural levels and characteristics in Operating Regulations. According to the data collected and restated according to ABC, actual implementation is as follows:

Stage 1. Identifying processes within the company. Within the studied company, the following processes were identified: research, supply, water storage, water transport, electricity production, monitoring, maintenance, personnel training, financial and accounting services, payroll-personnel services, computer services, and administrative services.

Stage 2. Identifying the main activities at the company within energy sector (table 1)

Table 1

List of activities identified within the company

No.	Activities
1.	Research service: research
2.	Supply service: selecting suppliers, float and reception of supplies orders, float and reception of auxiliary supplies orders
3.	Water storage: monitoring dam data, recording dam data
4.	Water transport: water connection from dams to surge tower, taking over hydraulic shocks from hydropower units by surge tower
5.	Electricity production: triggering hydraulic turbines (converts hydraulic energy of water into mechanical energy), triggering electric generator (converts mechanical energy into electrical energy), triggering electrical transformer (raises voltage from generator terminals up to 220 KW)
6.	Monitoring: monitoring electrical parameters (voltage, electricity, pressure), monitoring equipment condition
7.	Maintenance: equipment tour check, preventive checks (greasing, oil filling, startup pumps, startup Diesel group)
8.	Personnel training: SSM training, first-aid training
9.	Financial and accounting service: financial-accounting records, cost calculation and settlement
10.	Payroll personnel services: personnel records, payroll
11.	Computer services: computers
12.	Administrative services: administrative

We used the following marking: energy 150 Mw/S1 (ES1), energy 150 Mw/S2 (ES2), energy 42 Mw/S3 (ES3), energy 4 Mw/S4 (ES4). Setting the consumed resources (direct and indirect costs) is as follows (table 2):

Table 2

List of consumed resources within the company in the energy sector

No.	Elements	ES1	ES2	ES3	ES4	Total
1.	Expenses related to accumulation and consumed water connection	104698	62349	47582	27612	242241
2.	Expenses with the personnel directly involved in the exploitation activity	461111	253441	85999	54331	854882
3.	Expenses with salary accessories of directly productive staff	198969	109360	37109	23444	368882
4.	Expenses related to research service - research					1927
5.	Expenses related to supply service:					
	- selecting suppliers					16440
	- float and reception of supplies orders					19103
	- float and reception of auxiliary supplies orders					14658
6.	Expenses related to water storage					
	- monitoring dam data					46059
	- recording dam data					51861
7.	Expenses related to water transport:					
	- water connection from dams to surge tower					26280
	taking over hydraulic shocks from hydropower units by surge tower					15490
8.	Expenses related to electricity production:					
	- triggering hydraulic turbines					356822
	- triggering electric generator					247111
	- triggering electrical transformer					149882
9.	Expenses related to monitoring:					
	- monitoring electrical parameters					12110
	- monitoring equipment condition					6725
10.	Expenses related to maintenance:					
	- equipment tour check					150403
	- preventive checks					151978
11.	Expenses related to personnel training					
	- SSM training					2958
	- first-aid training					2023
12.	Expenses related to financial and accounting service:					
	- financial-accounting records					147228

No.	Elements	ES1	ES2	ES3	ES4	Total
	- cost calculation and settlement					155925
13.	Expenses related to payroll personnel services:					
	- personnel records					8663
	- payroll					4331
14.	Expenses related to computer services					11803
15.	Expenses related to administrative services					689267

Stage 3. Choice of cost drivers specific to each type of indirect expenditure at each production workshop (table 3) is as follows:

Table 3

List of cost drivers identified within the company in the energy field

No.	Activities	Cost driver	ES1	ES2	ES3	ES4	Total
1.	Research service: research	Total hours	2	2	2	2	8
2.	Supply service:						
	- selecting suppliers	Total suppliers	3	4	3	2	12
	- float and reception of supplies orders	Total orders	6	5	4	1	16
	- float and reception of auxiliary supplies orders	Total orders	4	3	3	2	12
3.	Water storage:						
	- monitoring dam data	Total monitoring sheets	4	3	2	1	10
	- recording dam data	Total monitoring sheets	3	3	3	3	12
4.	Water transport:						
	- water connection from dams to surge tower	Number of hours surveillance	3	1	1	1	6
	- taking over hydraulic shocks from hydropower units by surge tower	Number of hours surveillance	2	2	2	2	8
5.	Electricity production:						
	- triggering hydraulic turbines	Production hours	19	17	9	5	50
	- triggering electric generator	Production hours	12	11	5	2	30
	- triggering electrical transformer	Production hours	12	11	5	2	30
6.	Monitoring:						
	- monitoring electrical parameters (voltage, electricity, pressure)	Total monitoring sheets	9	5	1	1	16

No.	Activities	Cost driver	ES1	ES2	ES3	ES4	Total
	- monitoring equipment condition	Total monitoring sheets	6	4	2	2	14
7.	Maintenance:						
	- equipment tour check	Number of hours surveillance	3	3	3	3	12
	- preventive checks	Total checking hours	2	2	2	2	8
8.	Personnel training						
	- SSM training	Hours of training	5	5	4	4	18
	- first-aid training	Hours of training	8	7	3	2	20
9.	Financial and accounting service:						
	- financial-accounting records	Total summary sheets	3	3	3	3	12
	- cost calculation and settlement	Total cost calculations	1	1	1	1	4
10.	Payroll personnel services:						
	- personnel records	Total recording hours	2	1	2	1	6
	- payroll	Total employees	130	90	30	10	260
11.	Computer services	Total hours	9	5	1	1	16
12.	Administrative services	Total hours	8	7	3	2	20

Stage 4. Allocation of indirect costs on activities based on established cost drivers (table 4)

Table 4

Allocation of indirect costs within the company in the energy field

No.	Activities	ES1	ES2	ES3	ES4	Total
1	Expenses related to research service: research	482	482	482	481	1.927
2	Expenses related to supply service:					
	- selecting suppliers	4110	5480	4110	2740	16440
	- float and reception of supplies orders	7164	5970	4776	1193	19103
	- float and reception of auxiliary supplies orders	4886	3665	3665	2442	14658
3	Expenses related to water storage					
	- monitoring dam data	18424	13818	9212	4605	46059
	- recording dam data	12965	12965	12965	12966	51861
4	Expenses related to water transport:					
	- water connection from dams to surge tower	13140	4380	4380	4380	26280
	- taking over hydraulic shocks from hydropower units by surge tower	3873	3873	3873	3871	15490
5	Expenses related to electricity production:					

No.	Activities	ES1	ES2	ES3	ES4	Total
	- triggering hydraulic turbines	135592	121319	64228	35683	356822
	- triggering electric generator	98844	90607	41185	16475	247111
	- triggering electrical transformer	59953	54957	24980	9992	149882
6	Expenses related to monitoring:					
	- monitoring electrical parameters	6812	3784	757	757	12110
	- monitoring equipment condition	2882	1921	961	961	6725
7	Expenses related to maintenance:					
	- equipment tour check	37601	37601	37601	37600	150403
	- preventive checks	37995	37995	37994	37994	151978
8	Expenses related to personnel training					
	- SSM training	822	822	657	657	2.958
	- first-aid training	809	708	303	203	2.023
9	Expenses related to financial and accounting service:					
	- financial-accounting records	36807	36807	36807	36807	147228
	- cost calculation and settlement	38981	38981	38981	38982	155925
10	Expenses related to payroll personnel services:					
	- personnel records	2888	1444	2888	1443	8663
	- payroll	2166	1499	500	166	4331
11	Expenses related to computer services					
12	Expenses related to administrative services					

Stage 5. Production calculation at a pre-calculated cost (table5)

Table 5

Production calculation at a pre-calculated cost within the company in the energy field

Produced energy	Quantity (MWh)	Pre-calculated cost (lei/MWh)	Value (lei)
S1/with an installed capacity of 150 Mw	39841	37.54	1.495673
S2/with an installed capacity of 150 Mw	25511	43.11	1.099779
S3/with an installed capacity of 42 Mw	9000	61.46	553140
S4/with an installed capacity of 4 Mw	6923	54.28	375780

Stage 6. Calculation of electricity finished production at effective cost (table 6)

Table 6

Calculating production at effective cost within the company in the energy field

No.	Elements	ES1	ES2	ES3	ES4	Total
1.	Expenses related to accumulation and consumed water connection	104698	62349	47582	27612	242241
2.	Expenses with the personnel directly involved in the exploitation activity	461111	253441	85999	54331	854882
3.	Expenses with salary accessories of directly productive staff	198969	109360	37109	23444	368882
	Total direct costs	764778	425150	170690	105387	1466005
4.	Expenses related to research service: research	482	482	482	481	1927
5.	Expenses related to supply service:					
	- selecting suppliers	4110	5480	4110	2740	16440
	- float and reception of supplies orders	7164	5970	4776	1193	19103
	- float and reception of auxiliary supplies orders	4886	3665	3665	2442	14658
6.	Expenses related to water storage					
	- monitoring dam data	18424	13818	9212	4605	46059
	- recording dam data	12965	12965	12965	12966	51861
7.	Expenses related to water transport:					
	- water connection from dams to surge tower	13140	4380	4380	4380	26280
	- taking over hydraulic shocks from hydropower units by surge tower	3873	3873	3873	3871	15490
8.	Expenses related to electricity production:					
	- triggering hydraulic turbines	135592	121319	64228	35683	356822
	- triggering electric generator	98844	90607	41185	16475	247111
	- triggering electrical transformer	59953	54957	24980	9992	149882
9.	Expenses related to monitoring:					
	- monitoring electrical parameters	6812	3784	757	757	12110
	- monitoring equipment condition	2882	1.921	961	961	6725
10.	Expenses related to maintenance:					
	- equipment tour check	37601	37.601	37.601	37600	150403

No.	Elements	ES1	ES2	ES3	ES4	Total
	- preventive checks	37995	37995	37994	37994	151978
11.	Expenses related to personnel training					
	- SSM training	822	822	657	657	2958
	- first-aid training	809	708	303	203	2023
12.	Expenses related to financial and accounting service:					
	- financial-accounting records	36807	36807	36807	36807	147228
	- cost calculation and settlement	38981	38981	38981	38982	155925
13.	Expenses related to payroll personnel services:					
	- personnel records	2888	1444	2888	1.443	8663
	- payroll	2166	1499	500	166	4331
14.	Expenses related to computer services	6639	3688	738	738	11803
15.	Expenses related to administrative services	275707	241243	103390	68927	689267
16.	Total activity costs	809542	724009	435433	320063	2289047
17.	Total production cost	1574320	1149159	606123	425450	3755052
18.	Obtained energy production (MWh)	39841	25511	9000	6923	81275
19.	Unit cost	39.52	45.05	67.35	61.45	46.20

Stage 7. Calculation of cost differences for obtained electricity production (table 7)

Table 7

Calculation of cost differences for within the company in the energy field

Explanations	Effective cost (lei)	Pre-calculated cost (lei)	Differences (lei)
S1/ with an installed capacity of 150 Mw	1574320	1495673	78647
S2/ with an installed capacity of 150 Mw	1149159	1099779	49380
S3/ with an installed capacity of 42 Mw	606123	553140	52983
S4/ with an installed capacity of 4 Mw	425450	375780	49670

Results and Discussions

H1: Testing results

For a long time there is a strong need for training and development of a new mentality among energy managers, on the position which they adopt in cost calculation. The lack of concern for this aspect was gradually replaced with manifestation of, cost "dominion" desire, forecasting and reducing them. The case study performed demonstrates the possibility of

successful implementation of Activity-Based Costing in energy companies in Romania and brings management improvement of the activities in this sector.

H2: Testing results

To illustrate the superior results obtained by this method (table 8), there will be presented comparatively the results of the enterprise by a classical method of cost calculation, namely global cost calculation method:

Table 8

Comparative analysis between the results obtained using the global method and ABC

No.	Types of energy produced within sections	the	The result determined in terms of global calculation		The result determined in terms of ABC	
			Unit (m.u./MWh)	Global (m.u.)	Unit (m.u./MWh)	Global (m.u.)
1.	Energy Mw/S1	150		+ 32259.21	+ 1.73	+ 68924.93
2.	Energy Mw/S2	150		+ 32548.89	+ 1.04	+ 26531.44
3.	Energy Mw/S3	42		+ 9766.30	- 2.13	- 19170.00
4.	Energy 4 Mw/S4			+ 6135.20	+ 1.01	+ 6992.23
	Total		0.99	+ 80709.60	+ 1.02	+ 83278.60

As shown, by using the Activity-Based Costing, overall profit generated from electricity development within the four main sections is with 2569 m.u. greater than the profit determined by applying global costing method. This difference comes from the fact that ABC leads to a production cost per MWh of only 46.20 m.u., with 1.88 m.u./MWh lower than that obtained by global method, i.e. 48.08 m.u./MWh. Obtaining a lower production cost, with direct effect on the performance achieved is due to cross-reorganization of the entity proposed by the ABC, to boundary of value from non-value producing activities, and distribution of costs to activities based on cost drivers. Global method of calculation assigns "indirect" character to all common expenses, whether or not they lead to obtaining value. Activity Based Costing ensures the use of information produced in assisting management process, as well as effective cost management through a management model called Activity-Based Management. Joining this model can lead the producing entity within energy field to a redefinition of the notion of performance and its evaluation. In the view of this model, performance is seen as multi-criterial, which includes issues of cost, quality, time and participation in the creation of value, and, its measurement involves the removal of positioning on certain indicators.

Following the implementation of ABC within this company in the energy sector, an allocation of indirect costs of the activities resulting from trimming of the entity was made, and the costs of these activities were later distributed on object calculation. Thus ABC system serves to management decisions regarding resource use. It requires management of a company to focus on those aspects which "creates" demand for resources, in order to redistribute or remove excess resources (Budugan *et al.*, 2007).

In addition to considering the ways to reduce costs and streamline production, within performance management, ABC also provides an opportunity of accountability of decision

makers on spending, especially for support activities, the notion of indicators necessary to management for total quality assurance and knowledge of cost of this activity (Briciu, 2006).

Conclusions

After analyzing the current situation in the energy sector there has identified an urgent need to improve the system for calculating and tracking production costs. In the article we developed we focused on shaping a new approach in this field, we proposed implementing ABC in the energy sector and we mentioned the benefits of this system of calculation. The main reason we recommend using an ABC-type costing method within the energy-specific entities, it is high volume of fixed costs that can be found in these entities. Fixed expenses are actually indirect costs and a calculation system focused exclusively on the method of identification, treatment and distribution of indirect costs is the ABC system. Global method of calculation used in some energy companies, proposes a direct assignment of production cost of indirect costs, treats them as common production expenses and are allocated to it without a rational distribution, by using allocation criteria, without an analysis of causes which led to the realization of these expenses. We consider that ABC is an instrument in the service of energy-specific entities' management, not only to increase customer perceived value, but also to increase entity profit. Based on both the strategic objectives set, the entities may translate in terms of quality, time and cost each activity identified within them and that is likely to create value. This involves allocating the resources prioritarily to those activities with a major contribution to entity profit formation, while placing the focus of customer expectations.

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