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DOCTORAL THESIS (SUMMARY)

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ACCOUNTING INFORMATION VALUES USED FOR ANALYSIS OF ECONOMIC PERFORMANCE IN THE ENERGY MINING INDUSTRY

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2017**

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1. KEYWORDS

Energy mining industry, coal mining, sustainable development, indicators, energy mix, national strategies and policies, economic performance, accounting information, financial statements, accounting, financial position, corporate governance, balance sheet, liquidity, financial balance, risk, cash flows, stakeholders, profitability, profit, loss, explanatory notes, cost calculation, created economic value, factorial analysis, multi-criteria analysis, dashboard, balanced scorecard.

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3. INTRODUCTION

In the current economic context marked by increasingly prominent challenges, the need to impose a responsible behavior by national decision-makers on the reorganization of the energy mining industry on the principles of economic competitiveness, sustainability and social responsibility becomes a priority given that business requirements on a fierce competitive market are increasingly demanding in order to align with the directions of action of the community economic space.

Energy independence has become the national priority, and it is estimated that the community's energy mix will mainly use coal to produce electricity. In Romania, the use of coal in the energy process will continue with the same intensity as a viable alternative to renewable energy resources over the next two decades.

For these reasons, in the doctoral thesis titled "INFORMATION VALUES OF ACCOUNTING FOR THE ANALYSIS OF ECONOMIC PERFORMANCE IN THE ENERGY MINING INDUSTRY", we propose to carry out a diagnosis on a key sector of the Romanian economy through a sustained analysis in order to determine the economic performance on the Romanian mining industry. The context of the study is the reorganization of productive capacities in mining and energy at the level of the European Union on the principles of economic competitiveness and environmental protection. This is necessary in order to identify the problems faced by the energy mining industry and to identify the possibilities for action to develop this sector.

We believe that the energy mining industry contributes to the sustainable development of local communities as sustainable development is closely linked to economic development, so that at the level of specialists in the international economy, it is unanimously accepted that countries endowed with natural resources could capitalize on the development of their resources an advanced economic development.

We also consider it appropriate to determine the economic performance in this sector of activity as it contributes to achieving a superior level of well-being and prosperity for the members of society by facilitating a consistent redistribution of financial resources to the population and ensuring sustainable economic development in accordance with requirements for alignment to the best economic practices in the European community.

This goal calls for the implementation of an integrated performance measurement management system at the level of the organization using quality accounting information so that the expected results are achieved with a lower cost ceiling than the advanced competition for maintaining the market and ensuring the development of the business in time.

Current socio-economic development requires continuous improvement of the accounting information provided by the financial statements so that it can meet both the organization's requirements, the fundamental decisions implemented by the decision-makers and the informal needs of the business partners. For this reason, the quality of the information provided by the financial statements gives a consistent value to the financial reporting framework, thus supporting the financial system and economic growth. The usefulness of accounting information is proven when its users use it to understand the enterprise's economic reality and to take appropriate decisions.

Accounting information helps managers develop knowledge to prepare for future unknown decisions and activities. Due to the fact that accounting information is only part of the larger set of information that managers use to perform their work, it is imperative not to consider their strengths and weaknesses in isolation but in relation to other sources

of information available to a manager. Since managers interact with other managers who mainly use verbal communication formats rather than written reports, accounting information becomes involved in managerial activity.

Accounting information is designed to manage the enterprise and includes information on the unit cost of the product, cost behavior related to the volume of business or profitability of the economic entity. This information provided by synthetic and analytical accounts is used by economic and financial analysis to develop an operative diagnosis based on the economic and financial reality accurately reflected in the respective accounts. In order to analyze the overall efficiency of an enterprise, the amount and quality of existing financial and accounting information at a given time in the enterprise's decision-making system, preferably at analytical levels, is very important. The performance of an investment is related to the quality of the financial information and the real image of the transaction, the investment decisions being made after carefully studying the market offers, the managers making important decisions based on the accounting data circulated by the information flow of the enterprise.

The Romanian mining industry faces multiple challenges due to the pressure of competition on indigenous coal extraction activity due to imported coal which has a competitive price compared to the domestic product. Currently, coal produced in countries such as Germany and Poland can be purchased at a lower price than the domestic product. The acquisition of imported coal in the short term allows for the achievement of the level of profitability estimated by the electricity producer, but with unfavorable consequences for indigenous coal producers, increasing the risk of poverty and social exclusion. In order to prevent this phenomenon, a coherent investment program is needed to help reduce the cost of coal production by maintaining or increasing the volume of extracted coal, as the case may be. Another significant challenge facing the Romanian mining industry is the limitation of the amount of electricity offered for export. This phenomenon has the effect of oversupplying coal storage capacities in favorable operating times with direct consequences on productive staff (forced leave, technical unemployment, benefit cuts).

Under these circumstances, the study on the performance of mining and energy activities contributes to informing decision-makers responsible for the current situation in this sector, providing the tools needed to analyze the economic and financial performance of the sector in order to redress inefficient activities aimed at achieving the level of development pursued stakeholders.

Considering the major importance of the mining industry for ensuring the stability of the national energy system as well as the contribution to the economic development of the country, in our scientific approach we have proposed to approach the activity of the mining sector from a dual perspective through the intrinsic characterization of this sector and by highlighting the contribution of this area to the economic and sustainable development of Romania.

Satisfying the needs of mankind in continuous diversification requires the expansion of extractive perimeters in new territories rich in natural resources and with affordable labor as a cost. However, this path from the existence of rich natural resources concentrated in a territory delimited to a considerable economic development is quite tortuous due to the additional requirements regarding the working capital, respectively the investment resources and the environmental protection, which must be provided by the authorities entitled to this scope. The absence of these investment resources causes the representatives of the territories rich in natural resources to request the import of foreign capital in the form of foreign investments for the exploitation and capitalization of these natural resources. Foreign capital involved in productive activity meets rigorous cost requirements because the investment process must bring the investor's expected return.

The motivation for choosing this scientific approach lies in the major importance of the Romanian energy mining industry in the conditions of an irreversible process of changing climatic conditions all over the world. Being a country with considerable energy potential, we can say that this is the chance that we can capitalize on both the economic development of society and, especially, to ensure the stability of the national energy system.

The imminent change in climatic factors puts the capacities of renewable resources to meet the growing demand for electricity. This requires the promotion of the coal-based energy resource to overcome this impediment. The use of coal adds considerable value during the energy flow from the exploitation of the ore to the electricity supply to the consumer. This allows industry to appreciate overall economic performance. With the implementation of appropriate carbon capture and storage technologies as well as other environmental impact limiting technologies, coal will be the indispensable energy resource in the context of increasing demand for electricity needed for technological progress. The mining industry's ability to ensure the continuity and stability of the energy sector in unsuitable climatic conditions is the rationale for investing in this area of activity and for adopting the measures required by the management to meet the optimization and efficiency requirements of the activity with an influence on the regulated financing opportunities by the community block decision makers.

The mining industry in Romania required the adoption of stringent requirements from the European mining regulatory bodies on the efficiency and activity in some productive units with deficiencies in the management of operating costs. Thus, in the case of large loss units, the cessation of activity was ordered, and in the case of others with potential, measures have been applied to reduce drastically the operating costs with a direct impact on the various categories of employees.

Given that the activity of mining enterprises is continuously supervised by the responsible decision-makers in this respect, special attention should be paid to the economic results recorded by each entity. This desiderata reflects the importance of having a favorable financial position by the organization as well as the appropriate level of profitability that is necessary for continuity of activity. The enterprise of the future in mining must have the ability to make profits from one financial exercise to another without benefiting from state aid, otherwise it risks shutting down.

Following this scientific approach, by analyzing the activity of the organization, we aim to achieve those results that can be exploited by the mining decision makers for the elaboration and implementation of the necessary measures, for the improvement of the financial position and the economic performances by using the modern instruments of managing the organization's activity with clear and solid future prospects. Also, analyzing the profitability of the enterprise's business will help determine the optimal funding requirement so as to engage all the organization's resources to achieve the level of profitability predicted by management.

4. RESEARCH METHODOLOGY

In the realization of the scientific approach, the onset of the research on the studied subject was represented by the correct positioning in the sphere of knowledge both of the general field of research in which this study is oriented and its specific subdomains. Therefore, in this study we take into account the economic and social context under the influence of the activities involved in the energy mining industry. Referring to the general

field of research, the paper studies the accounting valences for the analysis of economic performance in the energy mining industry. Accounting records using the tools held, the possibility of carrying out diversified analyzes to highlight the past-present-future status of the organization.

The current state of knowledge regarding economic performance is highlighted by scientific documentation. The action consists of a sustained information on the existing bibliographic sources, the collection of data, the study of the previously identified sources and the synthesis of the information thus obtained, respectively the evaluation of the synthesized results in order to perform a critical analysis of the current state of knowledge on the field studied.

The research is based on the economic field, giving the accounting discipline the indispensable role regarding the importance and relevance of the concepts, terms and working procedures that contributed to the realization of an objective, pertinent and relevant study on the activity of the enterprise. Other branches of economic science were used in the study, including: economic-financial analysis, financial management, statistics and others.

The scientific approach of this paper was made by consulting various bibliographic materials, consisting of books, specialized articles published at national or international level, legislative bibliography and sites specialized in the studied subject. Throughout our work, we used 271 citations from 263 bibliographic references. The processed information was presented in 83 tables and rendered in 48 figures. Also, the practical documentation for carrying out this study involved the continuous movement at the premises of the mining enterprise in order to identify the real problems encountered, the consultation of the specialists in the field, the collection and selection of the data necessary for the analysis, in order to ensure their correctness and veracity.

The qualitative research undertaken in the study content allows a deductive approach. It starts from concepts, theoretical notions and regulations specific to the study area and continues with practical applications on the basis of the accounting data registered in the enterprise.

The research methods used in the study are: observation, grouping and comparison. Grouping as a working method is used for data obtained from the firm over certain periods of time (usually years) in order to draw conclusions about the phenomenon investigated as a whole. The method of comparison is used to study the level of indicators achieved compared to the level recorded by the same indicators in the previous years.

The scientific research carried out in the study materialized through the inclusion of other methods and techniques for analyzing the studied issues such as graphical representation and rate method. Graphic representation implies highlighting the evolution of the level / structure of the indicators under analysis being an effective way of presenting the performance of the enterprise. As far as the rate method is concerned, this is useful for the study undertaken because it aims to obtain information based on the ratio of two specific indicators reflecting the financial position and performance of the organization.

The theoretical aspects were mainly reflected in each chapter, the approach in this case being deductive, starting from concepts, theoretical notions and regulations specific to the study area. Also, within chapters 3, 4 and 5, scientific research has materialized by including, in addition to the research elements in Chapter 1, other methods and techniques for analyzing the studied subjects (statistical-mathematical methods, comparative methods, etc.).

In our study we used innovative working methods and specific analysis models as follows:

- Multicriteria analysis with specific methods of work (Direct analysis of options performance, Weighting of cumulative linear models, Analytical hierarchy process.)
- Factor analysis specific to the DuPont model in determining the profitability of the organization;
- Applying the Altman model and the Conan-Holder to assess the bankruptcy risk in the energy mining industry.
- Using the Gordon & Shapiro model and CAPM (Capital Asset Pricing Model) to obtain the cost of equity used to determine the newly created business value within the organization.
- Evaluating the performance of the organization through the Dashboard and the Balanced Scorecard;

The objectives pursued for this study are :

- **O1.** *Emphasizing the importance of a key industry in the Romanian economic system marked by profound transformations due to alignment with the European directives;*
- **O2.** *Positioning of coal mining in the national and EU mining industry;*
- **O3.** *Highlighting the role of accounting information provided by financial statements drawn up within the enterprise in the perspective of economic performance.*
- **O4:** *Determining the economic performance both by determining the financial position and by analyzing the profitability of the organizational activity; coal exploitation activities and electricity production in Romania;*
- **O5.** *Determining the coal production cost of the analyzed entity from the perspective of the classic approach to the interpretation of the results obtained in order to establish the required recommendations;*
- **O6.** *Use of modern instruments for assessing and managing economic performance in the energy mining industry.*

Advanced research assumptions in our work are as follows:

- **I1.** *The pursuit of economic performance in the energy mining industry is the only approach needed to ensure the continuity of the company's business.*
- **I2.** *The mining industry contributes to ensuring the stability of the national energy system and the socio-economic development of Romania;*
- **I3.** *The accounting information provided by the financial statements drawn up at the level of the organization has the role of facilitating the optimal decision making by the higher management in accordance with the adopted business model, the treatment of the accounting information being necessary in order to improve their information limits;*
- **I4.** *Determining the financial position and analyzing the profitability of the mining company allows the stakeholders to know the current economic situation within the branch of activity;*
- **I5.** *Methods and techniques for assessing economic performance give decision makers a true and fair view of the activities carried out within the economic entity;*
- **I6.** *The modern tools for piloting the organization's work, such as the Scoreboard and Balanced Scorecard, give an innovative dimension to the appreciation of economic performance in the energy mining industry.*

Throughout this paper we aim to deepen the knowledge in the studied field in order to find the answer to the following research questions in the Romanian energy mining sector:

1. Does Romania have a proper legal framework to support the development of a modern energy mining industry that will contribute to the sustainable development of this country?

2. Contributes the accounting information provided by the financial statements, taking into account its informational limits, to the improvement of the management act attributed to the management of the organization?

3. Does the mining and energy organization have a sound financial position in order to continue to work and maintain trust in the relationship with creditors?

4. Satisfy the organization's profitability stakeholder expectations?

5. Is the organization willing to ensure optimal conditions for implementing integrated cost management?

6. Does the organization have modern tools for evaluating and managing performance in the sector in which it operates?

In the elaboration of the scientific approach we aimed to achieve the research objectives by checking the research hypotheses, highlighting the actions undertaken in order to achieve a quantitative research that is effectively combined with the qualitative research to give a considerable value to the study.

The scientific research activity undertaken to carry out this study led to the publication of 9 articles in internationally recognized databases through which we disseminated the results of our own research.

5. BRIEF CONTENTS OF THE THESIS

Considering the complexity of the studied field, our work is divided into five chapters, the structure of each chapter presenting both the stage of knowledge and practical applications consisting of case studies and relevant analyzes of the events, systems and economic processes that interfere with the activity of the enterprise. These considerations in the first chapter entitled "**The romanian mining energy industry in the context of sustainable development**", we have pointed out a short history of the Romanian mining industry from its origins to the present to highlight the contribution of this sector to the socio-economic development of the country. Given the internationalization of economic activities, it is imperative to highlight the role of the energy mining industry in the context of sustainable development specific to the 21st century. Also, the organized development of this branch of activity calls for the permanent development and updating of the sustainable development policies of the Romanian coal sector presented throughout this chapter.

In chapter two entitled "**Perspectives on economic performance and treating accounting information for managing the modern enterprise**," research begins with the presentation of the concept of economic performance and the highlighting of the accounting information provided by the financial statements viewed as a synthesis of profitability. The study continues with the specification of the information limits of the financial statements in the local economic space as well as ways of diminishing this situation. At the end of the chapter, research focuses on the importance of management accounting to provide management with information useful for the development and implementation of operative decisions in a timely manner.

The analysis of the financial position in the energy mining industry on the basis of the relevant corporate governance indicators in chapter three presents an objective analysis

of the financial position and the influence it exerts on the economic performance of the organization. For this, the study's start is focused on the brief detailing of some general aspects regarding the financial position of the organization. The next aspect of the study consists of an overall analysis of the firm's financial position (balance sheet, patrimony structure, liquidity, solvency). The study continues with the influence of the economic equilibrium on the performance of the company analyzed, the risk assessment of the firm's activity and ends with an analysis of the cash flows recorded within the organization.

In chapter four entitled "**The profitability analysis - a fundamental objective in evaluating and presenting performance in the energy mining industry**", research is focused on analyzing the profitability of the organization as a fundamental objective in assessing and presenting economic performance. The starting point for this study is the presentation of the concepts associated with the profitability of the organization. The scientific approach continues with profitability analysis based on the profit and loss account, interim management balances analysis, profitability analysis and is finalized with a case study on the utility of explanatory notes in diagnosis and performance analysis of the organization.

The last part of the chapter is devoted to show the methodology for determining the unit production cost of coal (lignite) in the analyzed organization. In this chapter the practical application starts with the positioning of the analyzed organization in the mining sector in which it operates as the basic component of the largest state-owned majority company (77%) which provides more than one third of the electricity supplied to the market profile.

The new paradigm for evaluating activities managed by the management structure in the context of enhancing transnational competitiveness requirements calls for the implementation within the organization of **modern tools for assessing and managing performance in the energy mining industry** presented in chapter five. The study begins with the description of the newly created economic value within the organization and continues with a practical application to determine the newly created economic value based on the accounting data provided by the company's management. The next subchapter deals with performance evaluation from a multi-criteria perspective for the implementation of a procurement program at the level of the analyzed organization. In this respect, we have set the criteria, options and methods to complete the multi-criteria analysis. The chapter continues with the description of the modern instruments for measuring the overall performance of the enterprise represented by the Dashboard and the Balanced scorecard, and concludes with an applicative study on the construction of these managerial tools at the analyzed organization.

The last section of our paper is devoted to the research results by presenting the conclusions of the research undertaken, highlighting our own contributions, advancing the relevant proposals of the study, identifying the research boundaries and future perspectives of research.

6. CONCLUSIONS OF THE RESEARCH

The Romanian mining industry has, over time, been a creator of state, economic and social stability. Romania had the historic chance to hold a territory rich in mineral resources that have contributed, since ancient times, to the consolidation of the settlements around the Carpathian arch. These natural riches have been throughout history as the

triggering factor of military conflicts dated back to roman times, as well as the decisive factor behind the founding and development of local communities.

In the last century the Romanian mining industry has seen an unprecedented development. Exploitation activities have increased considerably since coal demand has been on the rise from one period to the next. Governmental decision makers before 1989 increased the state allocations needed to develop the mining sector year by year and laid the foundations for coal-consuming technology capacities. The entire economic flow of mining resources has led to the exponential growth of employees in the system. This endeavor involved a considerable financial effort that proved unsustainable over several decades when fundamental socio-economic transformations took place internally and externally.

At present, the mining industry continues to be an important sector of the romanian economy that ensures the well-being of the members of society and contributes to ensuring the stability of the National Energy System.

Challenges to the romanian mining industry in a european context are likely to mobilize local decision makers to reorganize the mining activities on the basis of competitiveness. This aspect will focus on securing the national energy needs from internal sources promoting the realization of the energy mix in response to the new international realities.

In the first chapter of our study entitled "**The romanian mining energy industry in the context of sustainable development**" the research starts with a description of the mining industry in the country through the evolution of time. Mining activities are experiencing an unprecedented expansion since the second half of the nineteenth century due to the actions taken to develop the mining industry with priority for other key sectors of the economy.

The mining industry was geared towards lignite exploitation under the auspices of the world's first conflagration when the country's energy needs had the purpose of supporting the war effort. The second half of the 20th century finds our country in the situation of securing its energy needs in the proportion of more than 50% of the oil and natural gas production. An unfavorable external conjuncture limiting access to imported oil has led to the development of a national energy program that has entailed a considerable increase in the amount of coal consumed for the production of electricity.

The situation of coal exploitation in the context of the centralized economy specific to the '80s becomes tense due to the abandonment of imported resources and the exclusive use of domestic products. This has generated massive state investments without taking into account the specificity of the exploitation perimeters. This leads to a situation in which coal production can not keep up with the needs of industry.

The transition to the market economy has led to a rethinking of the mining sector on new operating principles. Employment opportunities are considerably diminishing, involving the movement of labor to other economically prosperous areas.

Being a fully subsidized area from the state budget, it becomes difficult to sustain through budgetary subsidies and thus enters a long process of restructuring with major socio-economic implications.

Research results highlight the fact that at present the mining sector in Romania is organized in such a way as to serve the thermal power stations within the coal mining units. Domestic coal production (coal) is about 1.3 million tonnes per year, representing 1% of total european production. With regard to lignite production (about 22 million tonnes per year), it represents less than 5% of the total lignite production at european level.

Electricity production in Romania is based on the hydro-27% resource, coal-26%, nuclear - 17%, wind-14% and natural gas 13%. We note that the coal resource provides

almost a third of the electricity market with considerable growth potential in critical climatic instability situations. Therefore, coal is still a safe alternative to electricity production, which is why Western countries enjoy massive investments and research in order to make extraction more efficient.

The action lines coming from the community space are geared towards ensuring the sustainable development of the energy mining industry in order to reduce the impact on the environment. These include a 30% reduction in coal-mining resources used to produce electricity and supplementation with renewable resources (hydro, wind, solar and others) to reduce greenhouse gases associated with coal-fired power plants, generating Inevitable measures to restructure the mining activities.

Restructuring measures for the mining sector are part of a state strategy for the sustainable development of the energy mining industry, taking into account the environmental requirements and the difficult exploitation of coal in underground and aboveground perimeters. The need to develop sustainable energy mining industries is a priority between a functioning market economy where the use of renewable energy resources is an alternative to coal use.

Sustainable development is also necessary due to a global economic trend related to the current issue of unreasonable consumption of resources of any kind to meet the diverse needs of a growing global population. This huge consumption of resources not only has an adverse impact on the environment but also has a bad influence on the possibilities of future generations to meet their own needs.

Sustainable development of the mining industry can ensure a sustainable development of the community in line with Community space directives aiming to reduce by one third the activity of the coal industry by offsetting with other types of renewable energy resources. We mention that renewable energy resources are influenced to a considerable extent by climatic conditions and can not replace coal-based energy resources in the present conditions. If drought can cause water to fall from accumulation dams or lack of air currents cause the wind resource to be inactive, then coal is a viable alternative to ensure the security of the National Energy System.

Building on these considerations on sustainable development, it becomes imperative to adopt innovative thinking aimed at streamlining the consumption of resources allocated to the welfare of society and not to supplement the amount of resources allocated for this purpose.

Efficient consumption of resources can be achieved only in the context of a profound analysis of the performance of the entities responsible for their exploitation, their transformation into economic assets and the valorisation of these goods in a dynamic market where the effect of competition is becoming more acutely felt in price and competitiveness.

Throughout this chapter we have undertaken an analysis of the main sustainable development indicators in order to highlight Romania's socio-economic situation in line with its commitment to align with community requirements. The analysis reveals major differences between the results recorded by Romania compared to the European Union average.

In my own view, it is necessary to prioritize the use of coal-based energy resources with a controlled impact on the environment and on renewable resources. This option is based on the stability provided by the National Energy System by the mining industry as the current exploitation of mining resources is influenced by the unforeseen climatic conditions at a given time. At the same time, we mention that Romania still has significant reserves of coal and thermal power stations capable of capitalizing on the appropriate coal.

In the second chapter of the paper entitled "**Perspectives on economic performance and the treatment of accounting information necessary for the management of the modern enterprise**", the study starts with the deepening of the knowledge regarding the term of economic performance. In this respect, we applied the scientific documentation method to substantiate the previously acquired knowledge on economic performance as an integrating concept around which the results-oriented actions of the modern enterprise revolve.

The multitude of definitions assigned to the concept of economic performance denotes the intensification of the efforts of all categories of specialists who aim to place the modern enterprise in the center of the current concerns related to the rationalization of the resources involved in order to maximize the economic value of the organization necessary for the remuneration of the invested capital.

Our research reveals the usefulness of financial statements for the adoption of viable decisions by the management of the organization. In our opinion, the financial statements provide consistent information about the entity's financial position and performance, respectively cash flows arising from the management of the resources entrusted to the management of the enterprise. The information provided by the financial statements is a true tool at the disposal of the management because it contains useful data on the assets, liabilities, equity, income and expenses of the enterprise during the current financial year or ended as the case may be.

To be useful to the manager, the information provided by the financial statements must meet certain qualitative characteristics under the international regulatory framework as follows:

- **Intelligibility**, aimed at a light understanding of information by users who have sufficient knowledge to conduct their business and economic activities;
- **Relevance**, which assures the usefulness of the information needed for the decision-making process and helps users to evaluate past, present and future events;
- **Credibility**, quality that requires information to be free from significant errors, and users can access what they present;
- **Comparability**, which provides the comparison of the information presented in time and space.

In ensuring the relevance and credibility of the information presented to the manager, it is assumed that it is the premise:

- *Information needs to be timely for users to make decisions;*
- *The benefits from information must exceed the cost of obtaining it;*
- *It is necessary to establish a balance between the qualitative characteristics of the information.*

We consider it necessary for the management of the enterprise to know the informational limits of the financial statements presented in the paper and to take the necessary measures in order to obtain ways of diminishing these limits in order to ensure an efficient management and adapted to the existing economic realities.

The chapter ends with highlighting economic performance through management accounting. From the point of view of management accounting, **performance is identified at the intersection between the quality of decisions' results and managerial actions and the quality of managerial system objectives**. We can conclude that efficiency and effectiveness as components of performance give rise to the cost of constraint (cost of effectiveness) resulting from the actions and cost of constraint (cost effectiveness) effect of the actions. An enterprise is performing if it is both efficient and effective. Tracking efficiencies with ignorance of effectiveness can have serious economic and social

consequences (obtaining goods without assimilating consumer requirements generates reduced sales and additional costs with stock production).

In the third chapter, entitled "**Analysis of the financial position in the energy mining industry based on the relevant indicators in corporate governance**" we highlighted the directions of action that can be followed by the decision makers of the organization where we conducted the practical documentation for the assessment of the financial position in a constantly changing competitive environment.

Determination of the financial position of the enterprise resulted in an extensive analysis of the elements presented in the balance sheet drawn up by the unit at the end of each financial year considered.

The results of the research revealed a positive financial position of the company as a result of owning the equity that fully covers the total debts as the company's indebtedness is on an upward trend. Total assets recorded at the end of the analysis period show a downward trend influenced by the decrease in current assets by the nature of stocks and cash availability. Also, the total liability shows a downward trend relative to the previous financial year due to the influence of the considerable decrease in profit recorded during the analysis period.

The volume of the company's activities and their diversity led to the contracting of new loans in lei and foreign currencies from domestic and foreign credit institutions in order to ensure the financing needs and the continuation of the started investment process.

The determination of a relevant financial position of the company implied a distinct analysis of both the asset structure and the patrimonial liabilities structure in order to highlight the qualitative changes in the situation of the economic means and sources of financing on the one hand and the appreciation of the patrimonial state and financial and financial policy and strategy fundamentals, on the other.

The analysis of the assets structure based on company-specific indicators revealed a share of fixed assets of over 80% in total assets due to the specific activity of the enterprise. The continuation of the analysis of the fixed assets revealed that in their structure the corporal assets have a share of over 85% of the total assets being on an upward trend due to the investments oriented towards the purchase of machinery, equipment and means of transport useful for the production process.

Intangible and financial assets have a share of less than 1% in total assets due to the optimal dimensioning of the constituent elements needed to carry out the activity of the enterprise respectively the reduction of the participations held in the entities that serve the company's activity.

Regarding the company's current assets, they show a decreasing trend in the analyzed period due to the decrease of the coal reserves extracted from the exploitation perimeters and the decrease of the cash resources as a result of the payment of the matured amounts to the various creditors on the one hand part due to payments made to finance the company's current needs.

The analysis of the patrimonial liabilities structure on the basis of specific indicators shows a decrease in own capital due to the patrimonial elements of the nature of the reserves and the results, which are significantly reduced during the analyzed period. There is a drop in financial security as a result of the decrease in profit and the recording of a significant loss at the end of the analysis period along with the increase in medium and long term loans for the financing of investment and operational activities.

This study analyzed the liquidity and solvency of the company in relation to the volume and nature of its activities. The enterprise has a current liquidity that records supra-unit values, which determines its ability to meet its short-term liabilities. With regard to the "spot liquidity" indicator, the analysis highlights a steady decrease in the availability of the

company's current liabilities due to operating expenses and borrowing costs incurred by credit institutions. Total debts represent about one third of the total asset on the balance sheet resulting in the company being solvable.

The study continued with the analysis of the influence of the economic balance on the performance of the organization, starting from the financial balance on which the financial balance indicators were determined: the working capital, the working capital requirement and the net treasury.

The working capital shows a downward trend during the analysis period, registering a negative value for the last financial year analyzed. Obtaining a negative working capital at the end of the analysis period was due to a significant increase in short-term debt and prepaid earnings. Regarding the working capital requirement it can be said that it is registering negative values in 2012 and in 2014 amid the increase of the borrowed amounts from various credit institutions and the decrease of the balance of the current assets during the same period. The net treasury reflects the amount of money available to the company. It recorded positive values at the beginning of the analysis period, but subsequently showed negative values due to the deterioration of the working capital and the working capital requirement on the one hand, and on the other hand due to the considerable decrease of the existing assets, which led to the contracting of loans from various credit institutions.

In the section on risk assessment and performance assessment, we conducted an analysis of enterprise bankruptcy risk determination using the Altman model and the Conan-Holder model. According to the Altman model, the company records a difficult financial situation in the reference period, but it worsens in 2015 by registering a total loss of 960,856,433 lei.

In order to improve the financial situation of the enterprise, it is necessary to develop a plan for recovery of the activity by reducing operational costs and recovering existing receivables in order to adjust their provisioning activity as well as renegotiation for profitability of commercial contracts concluded with third parties.

Application of the Conan-Holder model highlights a very good situation for the company in 2012, with accounting results registered in the coming years placing the entity on a downward trend towards a bankruptcy risk of 30% according to the model methodology, requiring urgent recovery measures .

The last section of this chapter is allocated to existing treasury flows within the company, closely watched by stakeholders to assess the performance of the entity. The cash flows from operating activities and investment activity are negative in the reference period as a result of the decrease of current assets due to interest payments due to interest and taxes on maturity as well as due to the expansion of investments for the supplementation of tangible and intangible assets necessary for carrying out the activity In optimal conditions. As far as the cash flow from the financing activity is concerned, it is positive by contracting several credits from domestic or foreign credit institutions, the cash obtained through credit being indispensable for the continuation of the investment program and for the payment of the dormant payment obligations.

We appreciate that, unlike IFRS's where a mandatory structure is not provided for the presentation of balance sheet items, the structure of the balance sheet is mandatory in our country, thus limiting the professional judgment to present the items on the balance sheet according to the specificity of the activity of each undertaking.

In the fourth chapter, entitled "**The profitability of the organization - a fundamental objective in evaluating and presenting the performance in the energy mining industry**", we analyzed the profitability of the organization where we carried out the practical documentation based on the specific profitability analysis indicators (profit

and loss account, interim management balances, cost-effectiveness in assessing the performance of the economic entity, explanatory notes in the diagnosis and performance analysis, and the methodology for determining the cost of coal production).

The study began with the correct positioning of the term profitability in the literature. Thus, in most scientific papers, profitability is the ability of an enterprise to achieve profit by using production factors and capital regardless of where it originates.

Profit-and-loss profitability analysis renders the performance of the organization over a certain period of time as a useful tool within the entity's management to assess the results obtained and to undertake the necessary steps to increase the business or to recover it in periods Economic decline. The profit and loss account is also important for the creditors of the enterprise as it contributes to the assessment of its creditworthiness to qualify for a particular type of loan.

The results of the research are related to the analysis of the results obtained by the company during the reference period and positive results are revealed during the first two years of activity, and the results obtained at the end of the last two financial years will have negative values due to the introduction of the carbon dioxide certificates and the costs with adjustments for impaired receivables and assets.

Regarding intermediate management balances, these are treated in the literature as a set of indicators that reflect the company's economic and financial partial results, with a substantial contribution to the characterization of the results obtained by it. The indicators computed in the analyzed company show the following situation: The trade mark has an ascending trend in 2012 and 2013 and in the period 2014-2016 it is significantly lower than the level registered in 2013 due to the increase in the expenses on the goods sold. The output of the exercise increases in the first two years of activity due to the increased demand for carbon products and electricity and the diversification of the customer portfolio. In 2014, production declined due to the oversize of inventory of production units due to the limitation of sales activity given the high level of unpaid receivables. In 2016, the situation is recovering, the output of the exercise being higher than in the previous year due to increasing coal sales and the reduction of unpaid claims. Gross operating surplus shows a decreasing trend over the period under review, being influenced by the cost of purchasing carbon dioxide allowances and by supplementing adjustments for uncollected claims from customers. In addition to other internal factors, these two variables (the acquisition of CO₂ allowances and debt adjustments are increasing from one period to the next) have determined a net decrease in net profit over the target time horizon. This has led to measures to reduce operational costs and staff costs, generating protests and dissatisfactions within the company.

In view of determining the performance of the economic agent on the basis of profitability rates (commercial rate of return, consumption rate of return, economic profitability rate and financial rate of return), it can be concluded that these values are acceptable in the years 2012 and 2013, during 2014-2016 their trend to be downward due to the deterioration of the company's results.

The scientific approach continues with the presentation of the usefulness of explanatory notes in diagnosis and performance analysis. Explanatory notes have the advantage that they are very relevant in evaluating and predicting the results. Their disadvantage lies in the fact that they are very numerous and detailed. They can be presented in various forms (incidental explanations, aid schemes, cross references and others) with a high degree of complexity according to IAS 1.

The format of the explanatory notes according to the normative acts drafted in our country requires information on: fixed assets, provisions, profit distribution, operating result analysis, debt and claims situation, accounting principles, policies and methods,

shares and bonds, employee information, Managers, examples of calculation and analysis of the main economic and financial indicators, other information (organization of the company, profit tax, turnover, audit fees, interest and commissions related to loan agreements, greenhouse gas emission certificates and others).

The last section of this chapter was a thorough process of documenting and deepening knowledge on the methodology for determining the cost of coal production in the energy mining industry.

We consider that the objective pursued during this scientific approach has been fulfilled, the study debuting with highlighting the theoretical notions regarding the cost calculation and continuing with the applicative study materialized in the determination of the production cost of coal (lignite) within the mining organization subject to the analysis, The largest state-owned company in Romania.

The research was geared towards the correct positioning of the analyzed entity in the study reference range. The parent organization in charge of which the unit is responsible represents the largest romanian company with more than 14,000 employees engaged in the purpose of carrying out the activity of coal mining (coal) extraction and preparation on the one hand, namely the production of electric and thermal energy based on lignite on the other hand. Electricity produced can reach up to 40% of the needs of the National Energy System.

According to the traditional approach chosen by the analyzed organization, the unit production cost of coal (lignite) is obtained by reporting the total operating unit costs to the total quantity of coal expressed in tonnes recorded during the reference period.

The exploitation perimeter is difficult to operate so the coal extraction activity is expensive. According to the budget execution at the end of 2016, 2,388,330 tons of coal was extracted with about 900,000 tons below the budgeted level.

The unit cost per tonne of coal as determined in this study also includes the cost of ballast (a mixture of sand and gravel) to some extent distorting the actual cost per tonne of coal exploited, taking into account that the average Ballast / coal is 5.8 cube metter per ton. Removing these shortcomings will be the subject of further research.

The performance of the organization by determining the cost of coal production is declining but with real recovery prospects under the conditions of implementing a consistent investment effort.

In the fifth chapter of the paper entitled "**Modern approaches to evaluation and management of performance in the energy mining industry**", we offered a modern perspective of evaluation and management of the organization's activity centered on analyzing the economic value created by the entity, evaluating the performance of the company from a multi-criteria perspective, new tools for piloting and measuring company performance - Dashboard and Balanced Scorecard.

The analysis of the economic value created by the economic entity starts from an understanding of the basic notions of value creation within the enterprise. According to the literature referenced in the paper, the creation of the economic value within the enterprise is given by the interaction of the elements of the financial model assimilated by the enterprise resulting from the final effect of the operational and decisional components that influence the internal creative mechanisms of value.

The economic value created is associated with the common value that reflects the process of changing the relationship between the inputs and outputs of the company so as to generate social value as economic and social progress relies on the principles of value created defined by the cost-related benefits rather than the unitary approach .

It is widely accepted that the economic value created arises when the difference between the consumer's perceived benefits and the economic cost of the firm are increasing.

For the purpose of measuring the economic value created within the analyzed enterprise we used the **Economic Value Added (EVA) indicator**. This indicator is used extensively in assessing economic performance as a usual method of determining the economic value added based on the calculation of economic profit as part of the net profit after tax after which the cost of the invested capital is deducted.

The cost of invested capital may be the cost of equity (dividends) or the cost of borrowed capital (interest).

The cost of equity can be determined on the basis of the Gordon & Shapiro model (assuming a steady dividend growth rate) and using the **CAPM (Capital Asset Pricing Model) model**. According to the CAPM model, the cost of equity is influenced by macroeconomic factors (risk-free interest rate, return on capital market, and stock risk change in relation to overall stock market risk).

In the case study we started from the determination of the weighted average cost of the capital in the analyzed company, the cost of the capital being estimated based on the CAPM model using the data on the financial market related to the analyzed period. The analysis shows a decrease of the weighted average cost of capital by 0.35 percentage points compared to the previous financial year due to the considerable increase in the cost of borrowed capital on loans contracted by the company for the financing of current needs.

After we obtained the weighted average cost of capital, we applied the calculation methodology of the EVA. The obtained results show that the added economic value is greatly influenced by the company's operating loss at the end of each financial year analyzed, resulting in unsatisfactory values for the entity being analyzed.

The research on performance evaluation from a multi-criteria perspective allows for objective assessments from the management of an enterprise when it wishes to evaluate an investment project. Multi-criteria analysis is a tool that structures and combines the various evaluations that are considered in the decision-making process for selecting the optimal variant of several possible alternatives, the treatment applied to each of them conditional on the choice of the final decision.

In the initial phase of the multi-criteria evaluation the options (alternatives) are determined by the decision-makers in order to determine the ways of achieving the objectives pursued. The assessment continues with the analysis of the criteria against which the previously available options are analyzed. After the criteria analysis, the performance matrix of the mobile asset containing the criteria in numerical format for each analyzed option is constructed. Data from the performance matrix is used by company decision makers to quickly assess whether their goals are met, but can lead to unjustified appreciation of the options. In order to remove this impediment, after the construction of the performance matrix, we pass to assigning numerical weights to each criterion analyzed according to the differences between the alternatives and the importance allocated to each.

The next step after assigning the weights of each criterion is to standardize the performance matrix by converting the values specific to each criterion into units of measure according to a predefined normalization procedure in order to make comparisons between them. Thus, the analysis of existing options is based and an investment decision is made by selecting the best score option.

The scientific approach within this subchapter is finalized by highlighting the methods used in the multi-criteria evaluation:

1. Method direct option analysis is limited to direct analysis of the performances of the options. This consists in checking the dominant position of some criteria over others.

The dominant position occurs when the performances of an alternative (options) are at least as satisfactory as the other, similar for all the criteria being pursued, being better than the other for at least one criterion. One can say that one principle can dominate all of the other, which is unlikely to happen in practice. The method is recommended in the initial analysis of a product before issuing the financing decision.

2. The weighting method (cumulative linear models) is applied taking into account that the criteria are independent of each other and that uncertainty is not formally embedded in the multi-criteria analysis model. The linear model shows how the values of an option for several criteria can be combined into an overall value. The weighting process refers to the multiplication of the standardized scores of each criterion analyzed with its weight, then the scores associated with all the criteria.

3. The method of the analytical hierarchy allows the construction of a series of "pair comparisons" matrices that compare criteria to each other in order to rank or weigh each criterion that contributes to the overall goal. If the criteria are subdivided into sub-criteria, the pair comparisons are repeated within the given hierarchy.

The result of the study resulted in the application of these methods within the company analyzed according to the options previously set for a qualitative evaluation of the investment project from a multi-criteria perspective, which led to the selection of the best performing variant.

The scientific research in this chapter continued with highlighting the dashboard as a tool for piloting the responsibility centers within the enterprise.

The result of the research led to the establishment of the novelty elements characteristic of this instrument. The main indicators used in the construction of the dashboard for the mining company responsible for the exploitation of the carboniferous (lignite) resource were established. Each indicator was assigned data in the analyzed period on the level achieved and the budgeted (planned) level.

On the basis of these indicators and other relevant indicators the overall scoreboard for the analyzed career was constructed, the construction of which took into account the values of the indicators in the end month (realized / budgeted), the cumulated values during the year (realized / budgeted), the difference between the cumulative values compared to the previous year as well as the trend expressed quarterly.

The general dashboard consists in simplifying the information provided to management, being used by the organization's management to assess the performance of the activity carried out through representative indicators that provide the information support needed to develop and implement the current and future business decision.

The last study undertaken during this work is assigned to the Balanced Scorecard, an innovative concept that allows management to first identify the vision and strategy of the company, later translated into performance indicators. The strategy's development and implementation within the organization covers the following areas: financial, customer, improvement and innovation and internal processes. For each field, targets, measures, targets and initiatives are set. In implementing the strategic objectives at the company level, it is necessary to observe common principles (Transpose the strategy through the operational management, Make the strategy a continuous process, Make the strategy to become the object of each employee's work, Align the organization with the strategy, Transpose the strategy in functional terms). The enterprise defines its mission according to the objectives pursued and expects the expected results in order to obtain the necessary information for the management of the company in the future.

The result of the research highlights the construction of a Balanced Scorecard at the level of lignite exploitation in order to provide management factors with a new model for the assessment and diagnosis of the activities carried out by the unit.

The Balanced Scorecard construction was completed in 4 stages. In the first stage the 4 perspectives (areas of interest) of the enterprise were established. The second stage consisted in defining the set of strategic objectives related to the four outlined perspectives in stage one. In the third step we have identified the set of indicators that will serve as a measure of the achievement of the strategic objectives set in the second stage. In stage four, we built the Balanced Scorecard based on what has been done in the previous stages by assigning values / references to indicators specific to each of the strategic goals pursued.

We appreciate that the Dashboard and Balanced Scorecard will help facilitate and improve leadership by providing organizational management with an innovative and integrated performance evaluation model.

We believe that during our work, the research assumptions were fully validated, the research being oriented to determining the economic performance of the Romanian mining industry in the context of the new competitive challenges with internal or external influence.

7. PERSONAL CONTRIBUTIONS

In view of the above conclusions, we can say that our paper responds objectively to advanced research questions during the study. As such, we present synthetically our own contributions that underpin our thesis, as follows:

➤ showing the current situation in the domestic energy mining industry through a step-by-step approach starting from the oldest forms of mining exploitation affected by rudimentary exploitation technologies to the present moment when the mining sector is marked by profound changes due to competition and Insufficient funding for the exploration of new extractive perimeters (Chapter I);

➤ presenting the dynamics of indigenous coal production compared to the best practices existing at European level by the states with tradition in mining due to technological advances and their geomorphic conditions (Chapter I);

➤ Statement of the objectives assumed at European level in order to ensure sustainable development. Romania was one of the countries signing the Paris Convention on climate change. The Paris Agreement expressly provides, inter alia, for limiting the activities (coal / hydrocarbon burning) responsible for greenhouse gas emissions. The challenges facing the Romanian mining industry stem from the terms of this agreement (Chapter I).

➤ analyzing and presenting within our paper the main indicators of sustainable development to highlight the socio-economic situation in Romania compared to the average recorded by the EU member states. The indicators presented cover a broad area of research and refer to: Gross domestic product per capita, Productivity of resources, People at risk of poverty or social exclusion, Employment rate of older workers, Healthy living years and life expectancy at birth Gender, Greenhouse gas emissions, Official development assistance as a percentage of Gross National Income (Chapter I).

➤ showing the role of accounting information provided by the financial statements prepared by the organization according to the legal framework in the decision-making process by the management in compliance with the strategy and the business plan.

➤ rendering the usefulness of the financial statements in the assessment of the profitability of the organization according to the provisions stipulated in the international accounting standards and European directives transposed into the Romanian legislation (Chapter II).

➤ presenting the concept of economic performance within the enterprise by complying with the requirements imposed by the management accounting. This approach aims to measure the quality of managerial decisions leading to the achievement of the expected results of the stakeholders. (Chapter II).

➤ the analysis of the financial position of the mining company through multiple case studies on the balance elements with accurate data from S.C. Energy Complex Oltenia SA, the largest company in the country with majority state capital. Determining the financial position allows the stakeholders to appreciate objectively the performance of the company. The analyzed liquidity and solvency ratios complement the size of research reflecting a declining trend. Case studies have shown that the organization has a positive financial position since equity exceeds the unit's total debts as the company's indebtedness has a growing trend (Chapter III).

➤ making multiple case studies on the influence of the economic balance on the performance of the organization. The financial balance analyzed in the company is based on the indicators: bond fund, turnover fund needs and net treasury. In addition, the financial equilibrium was determined considering: the net patrimony study and the correlation of the working capital with current assets (Chapter III).

➤ Assessing bankruptcy risk and assessing business performance by multiple case studies. In this respect, we applied the Altman model and the Conan-Holder model to verify continuity of activity with favorable results in the first two years of its establishment, with uncertain results over the past two financial years (Chapter III).

➤ performing case studies on determining the profitability of the organization on the basis of the profit and loss account as well as the profitability analysis based on interim management balances. The presentation of the company's results in dynamics as well as the outlining of the results structure ratios along with the margin rates calculated for each financial year give an objective dimension to the entity's economic performance based on the profit and loss account. Interim management balances have as a source of information the profit and loss account reflecting the company's profitability on various levels, being useful in analysis and forecasting (Chapter IV).

➤ Recourse to profitability rates to determine the economic performance of the company involved four distinct case studies, one for each analyzed rate category (commercial rate of return, consumption rate, economic profitability rate and financial profitability rate using the DuPont model). The rate schedule is a useful tool in assessing the performance of the organization being analyzed, analyzing an unfavorable situation for the enterprise as a result of the continuous deterioration of the results obtained (Chapter IV).

➤ preparing case studies on explanatory notes to financial statements used in performance appraisal and in company performance forecasts. For each category of explanatory note we have constructed a case study with the dynamic evolution of the analyzed components (Chapter IV).

➤ the case-by-case study of the methodology for determining the cost of coal production at the mining enterprise. The coal exploitation unit uses the traditional approach to obtaining the unit cost per tonne of extracted coal. We have described the drawbacks of this method of calculating the production cost in the paper because the excavation process also produces a ballast whose cost is not clearly distinguishable. The ballast cost issue will be dealt with in further research (Chapter IV).

➤ determination of the newly created economic value within the mining enterprise. After presenting the theoretical aspects we conducted the case studies using the economic value indicator added according to the calculation methodology presented in the paper (Chapter V).

- Analysis of a multi-criteria investment project at the target company. The multi-criteria analysis was carried out in stages, with a case study for each stage described in the paper using pre-established analysis methods.
- Building the general Dashboard within the mining enterprise, starting from the representative indicators of the unit analyzed from a dual perspective: results obtained-budgeted results. This tool is a modern way of measuring and measuring the performance of the unit in response to the traditional approach considered obsolete.
- Develop and implement an innovative tool for piloting the organization's activity called Balanced Scorecard. The utility of this tool is based on the integrated vision of the company's activities regarding the prospect of implementation, the strategic objectives pursued and the indicators needed for the analysis.

8. LIMITATIONS OF THE RESEARCH

In this study we propose to study the economic performance in the Romanian mining industry according to a working methodology established in accordance with the realities, challenges and peculiarities of this sector. We believe that our work, although incorporating a thorough analysis of the domestic energy mining industry, succeeding in achieving the proposed research objectives, can not fully ensure the coverage of a vast research area undergoing constant transformation under the auspices of the market economy. Therefore, we have identified in our study some limitations of the research that we present below:

- In analyzing the dynamics of financial indicators, accounting data have been used since 2012 when the company under review is established under the Government Decision no. 1024/2011 through the merger of the National Company of the Oltenia Lignite and the three companies producing electricity (Rovinari Energy Complex, The Turceni Energetic Complex and the Craiova Energy Complex). Thus, the availability of financial data is ensured after the establishment of the respective economic entity in the period 2012-2016, representing from our point of view a somewhat limited (5 years) analysis of the accounting data in order to accurately predict the future financial situation.
- Throughout the paper, ensuring sustainable development by the energy mining industry was presented in a synthetic way, given the huge amount of information from the literature on sustainable development issues. Ensuring completeness on the concept of sustainable development requires extensive studies in the current global economic context;
- In determining the cost of coal production according to the company's calculation methodology, we have summarized the traditional approach to obtaining the unit cost of production per tonne of coal, including the amount of excavated ballast. We consider it necessary to deepen the cost calculation by types of activities in future research;
- The multi-criteria analysis of the investment project being implemented within the company, although adhering to a certified application methodology, only considers three work variants set according to the restrictions imposed by the investment plan and the revenue and expenditure budget. Supplementing the number of variants analyzed from a multicriterial point of view would have led to an unrealistic approach considering the compliance with the approved budgetary requirements at the ministry level.
- Presentation of the modern instruments to assess organization performance through the Dashboard and the Balanced Scorecard implied a brief review of the literature, the study focusing on the construction of each instrument at the disposal of the unit on the basis of the financial information held. We consider it appropriate to extend the research

on these instruments according to the latest innovative aspects established by renowned theorists.

9. PROPOSALS

Presenting the findings of the research and show personal contributions in our work requires establishing the proposals that we consider eloquent in order to improve the current situation in the energy mining industry:

- reducing the frequency of changes in the tax legislation that influences the accounting of the economic agent and determines the potential investors to expand their business;
- Improving the communication flow of the accounting and taxation novelties between the legislator, the economic agents and the control bodies of the competent ministry in order to ensure the transparency of the control act regarding the assimilation of the novelties in the accounting practice of the enterprises;
- the simplification of the reporting basis of the financial and accounting statements to the institutions empowered to tax the activities carried out by the organization;
- the extension of the fiscal facilities granted to the economic agent regarding the treatment of the reinvested profit and the insertion of the graduates after completing a study cycle;
- making decision makers in the mining industry accountable for the advance of the financial resources made available for the purpose of continuity of the activity in a transparent manner in compliance with the competition criteria;
- elaboration of a plan for the optimization of the production costs at the level of all the organizational structures involved in the conditions of a functional and efficient market economy;
- In order to provide the funds necessary for the modernization of the technological capacities, it is necessary to draw up projects financed from Community sources for investment in technology limit the impact on the environment;
- Creating aid funds from the surplus value registered in this sector for the elaboration of programs necessary for the improvement of the living conditions within the mining communities affected by the restraint of the carboniferous exploitations generated by the restructuring of the mining sector;
- development of a public-private partnership for easy access to the sources of financing necessary for the retechnologization of the activity, the transfer of knowledge and experience as well as for the transparency of the decision making process;
- entering into new export-oriented export markets, whereby the export of finished product (electricity) and less raw material (coal);
- priority implementation of the decision to create an energy mix by merging the coal-producing power company with various hydro and solar and wind energy producers in order to strengthen the national energy potential and provide the necessary financing sources;

10. RESEARCH PERSPECTIVES

Given the complexity of the work and the presentation of the limits of the present research, we propose as future research perspectives the following:

- Expanding the research on the contribution of the mining industry to ensuring sustainable development in order to align with the requirements of competitiveness and environmental protection according to the international commitments to which Romania took part.

- Expand research on costing in the energy mining industry using a modern approach highlighting the cost of production for each activity carried out within the enterprise to establish the necessary measures and corrections to rationalize the production effort on a healthy basis;

- Expanding research on modern tools for diagnosis and performance assessment of the organization represented by the Dashboard and Balanced Scorecard. Existing economic realities require imperative improvement and implementation of these tools in conjunction with other situations developed at the firm level helps the management to take the necessary decisions in order to ensure the continuity of the organization and its functioning on healthy principles of competitiveness.

- We intend to continue the research undertaken in this paper to highlight the importance of the mining industry in our country by presenting to the national decision-makers and not only the advantages and prospects associated with the mining operations in the context of discussing at the level of the member states of the European Union the problem of the gradual replacement of electricity from the combustion of coal with electricity generated from the exploitation of renewable sources in order to reduce the environmental footprint.

The researches that we will later undertake will provide the necessary arguments to find that this initiative is not feasible because electricity is needed on a continuous flow to the consumer. To the extent that renewable sources depend heavily on stationary climatic conditions on a delimited territory in my opinion it is a viable solution in the future for the replacement of non-renewable sources of electricity generation.

Currently, we are witnessing a disruption of the climatic conditions from one area to another, endangering the capacity of renewable sources to ensure the continuity of electricity supply to consumers, which confirms our determination to extend the research to the Romanian mining industry, with an emphasis on the exploitation and treatment of indigenous coal.

As we have shown in our paper, Romania's energy mining industry is a key sector of the national economy with a secular contribution to securing the country's energy and cultural identity.

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