

# THE UTILITY OF REDUCING PRODUCTION COSTS IN THE COAL MINING INDUSTRY

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## **Abstract:**

*Starting from the definition of production cost through which this characterizes the efficiency of the activity of any enterprise, its reduction represents a way of ensuring the future viability and evolution inclusively of mining facilities and of those of coal mining preparation. The lowering of production costs constitutes an essential problem of any economic activity, which influences directly their economic growth and efficiency.*

**Key words:** costs, mining industry, expenses, managerial decisions.

**JEL classification:** L72, M11, M41, O13, P42, Q30

In terms of today's economy, cost is a key instrument in decisions on resource allocation, which often are limited, the volume and structure of production, the increase or withdrawal of the supply of goods or services on the market. In these circumstances the best choice is to choose a minimum cost. Calculating the cost of production is not achieved only at a general level, but are also taken into account: distribution cost, labor cost, cost of education, health, information, administration, time, debt (credit), inflation, unemployment, economic reform, environmental cost, etc.

In specialized literature, **the production cost**, at a general level, represents all expenses incurred by an enterprise for production and deployment of production in a given period of time.<sup>1</sup> It is determined by comparing the costs incurred by an economic unit, in a certain period of time for obtaining and disposing of goods, execution of works or services, the quantity of goods, works or services obtained and sold<sup>2</sup>.

Management decisions based on the production cost have, as a source of information, tracing the evolution in dynamics compared with changes caused by the effectiveness of production activities. For these violations, general managers, and those of mines in particular, can detect various ways of reducing cost of production that would have as effect the accumulation of certain factors of production, according to their specific consumption and extraction activity.

In terms of the permanent need to reduce expenses, management company must carry out the assessment of practical opportunities to reduce costs and choose a number of variants of achievement.

Professor Michael E. Porter has in view that the relative cost position of a firm depends on "significant driving forces of cost." The **driving forces of cost** determine the structure of the cost of a service and are differentiated by the degree of control they exert over their company. Driving forces of cost determine the activity cost behavior, reflecting any links or interdependencies that influence this. Cost performance of firms

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<sup>1</sup> Oprea, C. - *Contabilitatea de gestiune*, Editura Tribuna Economică, București, 2001;

<sup>2</sup> Baciu, A. - *Costurile*, Editura Dacia, Cluj, 2001;

in each of its activities separate major activities and cumulate to determine the relative position of the company's cost.”<sup>3</sup>

We can thus state that **the main factors determining cost reduction action** are:

- *Limited character of resources*, which attracts with it a rational and responsible usage of them;
- *Best possible recovery of production factors*, implies an increase in revenue in terms of not modifying the selling price;
- *Increasing the activity's efficiency*, which attracts with itself a growth in profit.

The main ways of their reducing, however, have based their analysis on labor productivity, the reduction of direct and indirect costs that relate specifically to the consumption of materia and materials and general administrative expenses of production.

In terms of cost reduction of **material expenses** in the coal mining industry, the following directions can be taken into consideration:

- ~ consumption of raw materials found in abundance and at a low as possible cost;
- ~ extraction technology modernisation by upgrading equipment acquisitions at favorable prices so as to comply with the technical requirements;
- ~ reassessment and following the rules of consumption in framing them;
- ~ increasing rotation speed of circulating capital;
- ~ intensive usage of production tools so as to reduce the amortization degree which pertains to the final production unit- the coal.

From studies as to the consumption of factors of coal mining production, it was found that the essential share of the total expenditure is in material costs and thus they should be the main direction in reducing costs. In view of reducing **workforce costs** the main goal is the increase of productivity of work by the following manners:

- ~ Introduction of technical progress by upgrading equipment and thereof increasing its reliability
- ~ Increasing levels of training of staff and for individual tasks, powers and responsibilities of each job and job growth in part linked to individual responsibilities in achieving production schedules;
- ~ Elimination of non-use of enforcement personnel, restructuring the organization of management processes and monitoring operational parameters of their operations;
- ~ Stimulating employees by creating a system of rewards in terms of obtaining significant results;
- ~ Raising the quality of working conditions and social climate within the unit.

Desirable is the fact that labor productivity growth rate prevails over wage growth rate, thus demonstrating leadership and ability to efficiently use human resources and the pay of the company.

Another target of reducing the cost of production is represented by **the general administrative costs** that can be reduced in particular by increasing the volume of production, a reduction of administrative machinery, mechanization of calculation and evidence, statistics and planning but also through a reduction in office supplies with strict rules and norms of domestic administrative costs.

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<sup>3</sup> Porter, M. E. – *Avantajul concurential*, Editura Teora, Bucuresti, 2001, pag. 70

Taking into account cost and the other areas over which it can act to reduce production expenses, the instruments used and the effects that occur by applying these measures can be summarized schematically as:<sup>4</sup>

<b><i>AREA OF ACTION</i></b>	<b><i>TOOLS USED</i></b>	<b><i>EFFECTS</i></b>
<b><i>Material resources used</i></b>	<ul style="list-style-type: none"> <li>• Lowering consumption of raw material fuel, energy and water etc.;</li> <li>• Using new and unconventional, cheaper resources;</li> </ul>	<ul style="list-style-type: none"> <li>• Modifying proportions between salary and material resources;</li> <li>• Reducing total costs and prices,</li> <li>• Increasing the market share;</li> </ul>
<b><i>Work productivity</i></b>	<ul style="list-style-type: none"> <li>• Qualifying, re-qualifying and perfecting the workforce;</li> <li>• Intensive use of machines, tools, equipment, installations;</li> <li>• Ensuring rhythm in supplying work places with production factors;</li> <li>• Growth of the degree of organization and work discipline;</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of physical production per worker and per time unit;</li> <li>• Reduction of costs and implicitly growth of profit;</li> <li>• Growth of net profit,</li> </ul>
<b><i>Capacity of production</i></b>	<ul style="list-style-type: none"> <li>• Enlarging capacity of production;</li> <li>• Growth of degree of usage of production capacity;</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of physical production;</li> <li>• Growth of total costs;</li> <li>• Reduction of unit costs and of costs at 1000 lei business rate;</li> <li>• Lowering under-activity costs;</li> </ul>
<b><i>Quality of production</i></b>	<ul style="list-style-type: none"> <li>• Reorganizing and improving the quality management of human, material resource, of the processes of organization and lead of scientific research;</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of prevention and malfunction identification costs;</li> <li>• Reduction of costs generated by non-quality;</li> </ul>
<b><i>Introduction of technical progress</i></b>	<ul style="list-style-type: none"> <li>• Improving manners of valuing enterprise resources;</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of physical production;</li> <li>• Lowering specific consumption;</li> <li>• Profit growth.</li> </ul>
<b><i>Management</i></b>	<ul style="list-style-type: none"> <li>• Operative following of</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying the causes that</li> </ul>

<sup>4</sup> Barbu, E. C. – *Metode de analiză a costurilor de producție* – teză de doctorat, Bucuresti, 2004, pag. 223

<i>activities</i>	<p>expenses on activity places and manners of expenses through determining differences of effective expenses to the provisioned level and understanding the causes that have generated these differences;</p> <ul style="list-style-type: none"> <li>• Using information linked to costs in taking decisions on the base of relevant, inevitable expenses and through analysis of opportunity and investment expenses.</li> </ul>	<p>determine costs to increase;</p> <ul style="list-style-type: none"> <li>• Relative and absolute economies in the structure of expenses;</li> <li>• Eliminating of maintaining in fabrication of certain products.</li> </ul>
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Reducing cost of production should take place without negative influences on the overall activity of the enterprise, however, some **deficiencies** may occur such as:

- Influence in an overwhelming manner the financial resources of society when the improvement of existing or even introduction of new technologies is decided;
- Loss of advantages generated by the replacement of old technology with new one;
- exclusivity of implementing the strategy of cost reduction that achieves its purpose only when the manufacturer has become the market leader for costs and is able to determine other companies to give up this kind of cost strategy.

From the analysis we can conclude that lowering the cost of production is very important for any producer in any field of activity, and should be carried out continuously and with great responsibility, as it is the way to a profitable, competitive and stable business.

In the case of coal mining the efficiency of the activity of extraction must have in view the elaboration of a program of measures to keep into account, besides the factors mentioned beforehand, also a series of political and economic-financial objectives of the nowadays environment and the specific conditions of the deposits.

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