

IMPROVEMENT COST CALCULATION – A NECESSITY IN THE ELECTRICAL INDUSTRY

Prof. Dr. Constanța Iacob
University of Craiova,
Faculty of Economics and Business Administration
Craiova, Romania
Luminița Popescu (Costache) Ph. D Student
University of Craiova,
Faculty of Economics and Business Administration
Craiova, Romania

Abstract. The constant increase of the economic efficiency, as well as the requirements of the managerial teams within the market economy determine the need to improve the methods of cost calculation in order to grow their role in current decision making. The purpose is to increase the operability of the data provided to the managers, to increase the informative content on the costs, in terms of efficiency indicators needed to determine the scientific management of the economic activity, to improve the distribution of the indirect costs by using appropriate benchmarks, etc. So, in order to remove the disadvantages of the traditional methods, modern methods of calculation were invented, methods adapted to the new market conditions which provide, in addition to financial information about the costs of goods or services, other non-financial information on internal processes and customer costs. These methods enable the integration of the cost analysis in the strategic approach of the company, thus contributing to the decision making regarding the portfolio of the products and the services provided by the company.

JEL classification : J24, M12 ,M48, M54

Keywords: cost, calculated methods, target costing, value chain, control, calculation methods

1. INTRODUCTION

The contemporary scientific-technical revolution has brought to the fore the increasing complexity of the economic activity in all departments whose current and future control requires the taking into consideration of the criterion of efficiency, the economic optimum bearing both quantitative and qualitative forms.

Michel Capron highlighted the following idea: "Under the double effect triggered by the permanent competition and the multitude of products and processes of production, the companies felt the need to better control their costs in order to determine as precisely as possible the achievable selling prices and margins for each product. It was not only due to the need of predictability, but the means to pursue the enforcement of judgments also had to be provided, just as the development of the management control and its privileged

instrument, cost accounting, are explained, these being elements of which no important company could do without nowadays"¹

We can say that, at this point, the accountancy is the result of a long historical process and not the result of the economic agents' needs or the result of scientific conquests. Looked upon from time perspective, the development of the science of the accounting followed an increasing line, passing successively from lower to higher forms, from simple to complex, as a reflection, at the conscious level of the humans, who were longing to better define the quality of living and of the materialized labor spent in order to obtain certain products and the results of their work. Stemming from the practical needs of the economic and social life, it has developed and refined in theory and practice, at the same time with the development of the productive forces and of labour relationships, of the society in general.

2.OBJECTIVES

The companies should essentially aim at the permanent increase of the quality of the production at the same time with reducing the cost and the time to achieve these products, but the organization of management accounting is up to each company, depending on the kind of business, the technology features and the organization of production, the production type, size and the organizational structure of the company, the nature of the process of production, the degree of mechanization and automation and so on, and also depending on the needs of the decision makers, from this point of view the management accounting having a larger span than the financial accounting.

So, the information in management accounting is oriented towards the managers, who must firstly respond to the question of how to allocate the resources provided by the investors to achieve the objectives and, secondly, how the allocated resources have to be used. Therefore, one of the main objectives of management accounting is to help managers to manage costs and create the mood enabling mastery and understanding of the total cost and costs per units of product, work or service.

3.METHODOLOGY

The system of management and accounting must permanently generate information on²:

- Clarification on the past and the present of the economic state of the company;
- Rough guidelines on future economic strategies;
- Relevant market analysis;
- Limitation of the random field of making decisions;
- Solutions and adequate reasons for making decisions.

In making decisions, the information represents the main point of the entire managerial process. In the absence of a well-structured informative system, the decision-making process cannot be conducted, and the quality of the decisions made suffers. The informative flow destined to reach the managerial process is driven both inside the process generated and on its outside³.

¹ Capron M., 1994. *Accounting in perspective*, p. 57, Humanitas Publishing, Bucharest

² Neculai Tabără, Emil Horomnea, *The management accountancy and the decision-making process*.

The management and the accountancy of the firms, Magazine number: 6/1998, p12

³ Mariana Radu, *The Managerial Accountancy*, The Library Publishing House, Târgoviște, 2010

The costs of the activity of production, as indicators of management, are one of the most important sources of information, allowing monitoring during all the phases of the production process, beginning with the technical documentation and the documentation on resources, and ending with the reception of the products. The level of costs is a barometer that provides information about the conditions in which a particular manufacturing activity is conducted, which allows the managerial team to track, analyze and streamline the processes to a more rational use of the funds and of the economic resources, as well as to get the information necessary for planning and developing the budgets costs.

The application of a system or a method of calculation within a company, generally depends on several factors such as:

- the profile and the size of the company, which determines, in general, the organization and the conduct of the work of accounting and cost calculations.
- the organizational structure of the company, involving the division of production in productive activity stations and workshops.
- the complexity of the products.
- the degree of concentration, profiling and specialization.
- the specific features of the technological process and of the organization of production.
- the level of mechanization and automation of the production.
- the frequency and the time of making the necessary calculations.
- the ways to calculate, group and evaluate the costs.
- the nature of the production process.

Any leader, regardless of the hierarchical level where he/she is situated, is bound to be aware of the cost, so as to be able to take the necessary measures properly. Bertrand Thopson, an American economist, argues that a manager must first know the exact cost of production⁴.

4. ANALYSES

The traditional methods of cost calculation are oriented towards the sectors of production, being focused on controlling direct costs, which are diminished at the expense of the indirect costs. The main indirect activities are: research and development, procurement, logistics, scheduling, job training, planning and the management of the production, quality control, marketing, contracting, implementation of the contracts and controls, accounting and finance.⁵

So, the traditional methods of cost calculation have a number of shortcomings that affect the quality of information on cost per each item produced, the responsibilities involved and the operational control of the production costs. These methods cannot always ensure the exact calculation of the cost of the item produced, due to the distribution of the indirect costs by using conventional criteria. Classical methods (global, per phase, per orders), being absorbent type methods, are based on the classification of the expenses according to the division of expenses in direct and indirect costs.

The cost of goods comprises direct expenses and a share of the indirect expenses allocated within the cost of goods, based on distributional keys. The choice of these

⁴ Cornel Olariu , *The Management of the Company through Costs*, Facla Publishing House, 1975, p.99

⁵ Ebbeken, Klaus, Possler, Ladislau, Ristea, Mihai – *The Calculation and the Management of Costs*, Teora Publishing House, 2000

distributional keys is one of the problems that management accounting is facing nowadays. The use of arbitrary allocation keys simultaneously with the increase in the share of the indirect costs within the company's total expenditures, often leads to inaccurate results and this is more often than not due to the link between the allocation key used and the expenditures performed.

The classical methods are oriented towards the past, providing information on prior periods of management, without giving much attention to forecasts. The completely effective cost of the products is obtained after the entire production process is completed and all the costs connected with the unfolding of the production process have been centralized (at 20-25 days after the end of the reporting period) a strong historical character being imprinted on the information provided, which makes such data useful only for future periods of production⁶.

The historic character of the information provided by the conventional methods makes it impossible to adjust the process of production during its progress, and that is why their role in short-term decision making is very low. When a decision which should be based on cost must be made before the ending of the production process, it is possible that the information provided by it should not be appropriate, thus becoming useless. However, in the economic practice, these decisions are the most numerous, and the efficiency of their activity entirely depends on the way they are made. Thus, the information provided by these methods can be used in the long-term management, the production processes they refer to being already finished.⁷

Another limitation of the traditional methods of cost calculation is the fact that they do not account for changes in the costs of the volume of work. Being mainly oriented towards the calculation of the cost per full unit, emphasis is particularly put on the classification of the production and selling costs in direct and indirect costs, which does not permit their analysis in accordance with the volume of production. However, from the economic point of view, the costs are analyzed in correlation with the production output, which requires the use of clustering of productive and selling costs and their division in variable and fixed costs. The lack of classification of costs in variable and fixed costs leads to wrong decisions, which are taken on the basis of full costs, just as mentioned above.

The information provided by the classical methods loses its relevance due to the increase in the share of the indirect costs within the total expenditures and the high cost paid on collecting and processing information. And the control of costs by making the division between direct and indirect costs is a very complex and difficult process. The calculation of costs can be more easily made if costs are grouped in fixed and variable costs.

The classification of costs in fixed and variable costs enables the operative cost calculation. Based on variable and fixed costs, a very important number of indicators can be calculated, indicators that are very powerful in influencing the decision making process. The assessment of profitability of the product based on price-cost relationship is irrelevant in the complete schedule and structure of production and that is because full costs are not proportional to the volume of the production, but only some of them comply to this. For proper planning of production program, it is necessary to differentiate between fixed and variable costs.

⁶ Mariana Radu, *Managerial Accountancy*, The Library Publishing House, Târgoviște, 2010

⁷ Oprea Călin, *Managerial Accountancy*, The Pedagogical Publishing House, Bucharest, 2008

Therefore, we find that traditional methods used for calculating costs, methods used in the electrical industry as well, only allow the delayed determination of the effective product cost, without providing adequate information about the consumption of the raw materials and manpower. On the other hand, the information provided by the order-based method does not allow the notification of the uneconomical expenditure, the difficulties occurring during the process of production. Thus, the expenditures and production costs are not minimized. That is why it is important to introduce a powerful system for calculating costs, a system that will produce reliable information and lead to appropriate decisions.

The advanced methods allow the intensification of the control over the rational use of all types of resources, the proper allocation of their consumption on calculation objects, the optimization of the production process as well as the valuation of the information according to the requirements of the final users.

Many companies do not register and do not pay too much attention to the cost on each sub-activity, even if some sectors do not work at their entire capacity of production. In this situation, the stored product costs are influenced by the expenses made with the sub-activities. Also, the actual production costs are unnecessarily increased by the unproductive expenses. Not affecting and influencing the production costs by all these expenses would ease the analysis of the causes that have generated them and of the measures that need to be taken in order to remove all these unproductive costs. Thus, it is necessary to improve the cost calculation methods in the electrical industry by implementing a method that allows cost control throughout the entire manufacturing process, in order to enable compliance with the pre-calculated costs, thus achieving the profit which was initially planned.

It would be advisable to apply a method that should adapt to the market economy, where costs are based on prices. Another requirement that the chosen method should abide by is reducing costs before commencing manufacture, which would make the acceptance of orders which at the first sight seem unprofitable possible. Adopting such an approach would make it possible to reduce costs during the design stage and to maintain these costs unchanged during the manufacturing cycle.

All these limitations of the management accounting system and of the system of calculation of costs by using conventional methods, can be gradually removed, at the same time with the growing interest of shareholders and other factors in the information provided by the management accounting. The existing gaps in the management accounting techniques and methods must trigger the development of new techniques or at least lead to the improvement of the existing ones.

The management accounting must start to be used for more than measuring immediate results. It can be also used in order to grant rewards: the calculation of the future profits and of the sustainable growth in the value of the companies, the abandonment of the unprofitable products and the determination of the fair pricing, the motivation of the leaders. All these objectives must be achieved by new developments in the managerial accounting systems, by benefiting from the developments of the technology of processing and transmitting information⁸.

⁸ P.Diaconu, N. Albu, M. Stere, C. Albu, F. Guinea, *Insights into the Managerial Accountancy*, The Economic Publishing House, Bucharest, 2003

The methods of cost calculation that have been developed and used in recent decades corresponded to a particular technology. In recent years there have been important changes in the economy under the pressure of the global competition, which led to dramatic changes in doing business in many companies. These changes have created a new environment for cost calculation within a significant number of organizations. Once the environment has been changed, the traditional methods can no longer be applied.

There are four trends that influence the cost calculation:

- a. Implementing the JIT (Just in Time) manufacturing process;
- b. Introduction of integrated manufacturing systems (CIM, Computer Integrated Manufacturing)
- c. the development of information technology
- d. the abolition of regulations requiring controls of marketing operations within the service providing systems.

Due to the more intense competition that dominates both internal and external markets, the electrical industry companies must always be concerned with reducing costs. For these reasons, it is necessary to use a method of cost calculation that best suits the new market conditions, ie, the target costing method. This can bring great benefits to the electrical industry, especially for products that may be divided in components.

If this is not possible, some elements of the method can be used, elements such as seeking ways to reduce costs at the designing stage and trying to maintain costs during the manufacturing process, the use of multifunctional teams, the collaboration with the suppliers and so on, which are also useful in the cost reduction work; all these measures be taken and continual improvements must be made if the company is to obtain benefits and maintain on the market.

5. CONCLUSIONS

Therefore, we can conclude that, due to the increasing competition on the market, in order to maintain the proficiency level within the electrical industry, certain measures must be taken:

- A strict surveillance of the economic efficiency;
- A wise short-term decision making process;
- The new strategic guidelines that meet the new economic context within which the electrical industry companies operate, should be;
- The development of new products that are really useful and required by the target market (taking into consideration factors such as utility, quality and service);
- The ensuring of manufacturing flexibility, organization and human resources in order to adapt to any rapid market developments;
- Simultaneous achievement of the reduction of costs and of the improvement of the quality of the products.

Consequently, the improvement of the management accounting procedures requires taking up new methods and techniques of budgeting, cost tracking and calculation, which should allow simplicity, efficiency, economy and forecast, all of these leading to improved results. The value created through improving management accounting techniques and procedures should largely compensate for the used and consumed resources.

Finally, we can conclude that, when confronted with the new restrictions and the economic and technological opportunities offered by the world market, the companies involved in the Electrical industry seek to satisfy their clients in order to preserve and grow

their market share (flexibility) and at the same time, they try minimizing their costs (productivity), while the developments in technology through mechanization and automation of production require appropriate measures for continuous improvement of the principles, methods and techniques of organization and direction.

REFERENCES

1. Capron, M. Accounting in perspective, p. 57, Humanitas Publishing, Bucharest, 1993
2. Călin, O. Managerial Accountancy, The Pedagogical Publishing House, Bucharest, 2008
3. Diaconu, P., Albu, N., Stere, M., Albu, C., Guinea, F. Insights into the Managerial Accountancy, The Economic Publishing House, Bucharest, 2003
4. Ebbeken, K., Possler, L., Ristea, M. The Calculation and the Management of Costs, Teora Publishing House, 2000
5. Olariu, C. The Management of the Company through Costs, Facla Publishing House, 1975, p.99
6. Radu, M. The Managerial Accountancy,, The Library Publishing House, Târgoviște, 2010
7. Tabără, N., Horomnea, E., The management accountancy and the decision-making process, The management and the accountancy of the firms, Magazine number: 6/1998, p12