

The Influence of Costs on the Economic Substantiation of the Decision with an Impact on Business Evaluation

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Abstract

In the current context of economic development, achieving an overview of the usefulness and efficiency of cost information - managing and reducing it - is relevant for managers in making the best decisions in the decision-making process. Management accounting is the main source of obtaining information on costs, respectively, the basis of forecasts in managerial activity. In order to make the best managerial decisions, the efficient organization of the activity of an economic entity requires the improvement of management methods, which involves reconsideration of costing methods, the results being able to provide managers with the most relevant and efficient information. The objective of this study is to demonstrate that there is a congruent interdependence between the informational quality of costs, the decision-making efficiency of managers and their impact on the entire economic activity. The paper concludes with the results and conclusions of the authors regarding the importance of costs in the decision act.

Key words: information quality, decision, efficiency, impact, cost information system

J.E.L. classification: M20, M41

1. Introduction

In the current economic environment, which is constantly changing, the complex process of making managerial decisions becomes more and more difficult. The main task of management is to ensure that the information service is efficient and adapts to internal and external changes of the economic entity, and ignoring or omitting the continuous review of its performance in relation to the internal and external environment would be unforgivable. Managers must know very well the economic framework in which the economic entity operates, being attentive to the consequences generated by economic variations and to the changes that may occur at any time, in its activity.

The use of cost information in decision making, the application of modern and efficient methods of cost calculation - can lead to rethinking the information and decision-making system of the economic entity, as well as to assess the impact on the entire activity. Any financial decision is based on the accounting information provided by the accounting department, which is found in the form of annual financial statements. Within these documents, cost information is on the one hand - an important element for the manager's activity in the development of the decision-making process, and on the other hand - in the decision process, in addition to cost information, the manager's attitude towards risk, knowing that any decision also involves a certain degree of risk. At the level of each economic entity, the information system acts together with the decision-making and operational system, ensuring the collection of data on the development and evaluation of operational performance, data that constitute the set of information necessary for the decision-making system. The impact of the decision is the result between the harmonization of the established objectives, with the existing resources and the degree of reliability of the information received by the decision makers. A high level of decision quality can be obtained through a good interpretation of the information elements, corroborated with the methods of information

processing used and the level of preparation of decision makers. Therefore, the purpose of cost analysis is no longer to know the cost of products, but to manage the resources of the economic entity. Managing resources and costs does not only mean pursuing their reduction, but achieving the best balance between spending and utility that it creates. Therefore, managerial decisions must be based on relevant costs, recognized due to the predictive characteristics that record the hidden or opportunity costs, as well as the external - social ones. Knowing the costs is an important factor both in making decisions and in planning future work. Today, cost analysis of past activities is an important part of cost accounting and top managers, who are concerned about the evolution of costs in the future, which are the starting point for future decisions on supply, production, pricing and sales policy. Due to the forecasting characteristics, costs are a real management tool, being a fundamental element in efficient decision making.

The success of an economic entity will depend more and more, on the way the management collects-receives the information, on the quality of the respective information, on the rapidity of their processing in order to identify the best solutions, respectively, on the actions undertaken on their basis by managers.

Although decision-making is based on a whole dynamic process, managerial decisions are based on several common elements, such as: the hierarchical level of each decision maker, the nature of the position held within the economic entity and last but not least, the cost information system - information provided by managerial accounting. At the same time, in order to plan the activity and make the best decisions, the managers of the economic entities must know very well both the past costs and the future costs. The role of economic-financial information in decision making is given by the increasing complexity of economic activities imposed by the market economy. The quality of current as well as long-term decisions depends both on the quality of information received by managers and on the expected results of the entity.

The key to the success of an economic entity is to offer its customers a good value for money.

2. Theoretical background

Knowing the cost in all aspects has been and is a concern of specialists, both theorists and practitioners. Clarifying the notion and the actual content is particularly complex and involves operating with several specific notions. In order to present the most significant ones, we consider the economic circuit at the level of an economic entity with an industrial profile, respectively: supply, production, sales. In order to carry out an activity, the necessary resources must be provided: capital, nature and labor.

In monetary terms, cost can be defined both as an amount of money spent on producing or purchasing a good, the performance of a work, the provision of a service, and as a combination of elements such as: stress, dissatisfaction at work, noise, psychiatric costs that can hardly be measured in money, but that affect individual performance.

The most common definition of cost is that of a sum of money spent on the production or purchase of a good, the execution of a work, or the provision of a service.

Cost management involves more than measuring and reporting them - a philosophy, an attitude, a set of techniques that help create added value at a lower cost, and that contribute to the activities of the economic entity, to achieve the goal and make the best decisions.

3. Research methodology

The starting point in approaching the issue of this paper were two hypotheses:

H1. Within economic entities the activity of cost improvement is possible and it converges towards cost reduction;

H2. Managers can develop a mindset of cost strategy that leads to effective decision making with a favourable impact on the entire economic activity of an entity.

The choice of a methodology is an essential thing in terms of the credibility of the conclusions reached as a result of the research undertaken. The research methodology used in this paper considers the review of the literature, the synthesis of theoretical aspects and research results, identifying the importance of costs for decision making and the optimal framework for decision

making. The study started from a series of questions regarding the efficiency of the cost information system in the decision-making process of managers, of which we mention a few: Is the information presented by the management accountant relevant, sufficiently detailed and accurate for the stated purpose of the entity? Do the situations, the reports, the analyses constitute answers to the questions asked by the decision makers? What costs are influenced by the decision to be made? What do you give up if one alternative is chosen over another? How will the costs involved with the options behave after the decisions are made? How can you act on them? The research area was both the issue of the cost information system and the cost management of an economic entity.

4. The importance of cost information in decision making

The notions regarding costs do not have to be interpreted absolutely, the estimates and analyses must be made in the context of a certain situation and in a certain time interval. The cost information system plays an important role in each economic entity in the decision-making process. Thus, the task of management is to ensure control over operations, processes, sectors of activity and last but not least over costs. The cost information system monitors the results of other systems, such as: production control, inventory control, quality control in order to achieve the objectives of the economic entity. Knowing the costs is a decisive factor in planning future activities and making the best decisions. Managers are concerned not only with the planning of future activities, but also with the costs that may arise in the future, their level being the basis of managerial decisions and pricing policy.

Management accounting, in addition to covering a considerable scope and using advanced costing techniques, is a cost-effective information system capable of providing fundamental data to managers. Management accounting is deeply involved in the decision-making process. The decision-making process is an action that takes place at all levels of the economic entity, covering both the short-term and the long-term perspective. The plans are activated by decisions that are analysed financially and quantitatively, after which the conclusions are formulated rationally. During a decision-making process of evaluating alternatives, the evaluation of risk and uncertainty is of particular importance, as it is always present, as well as its consequences.

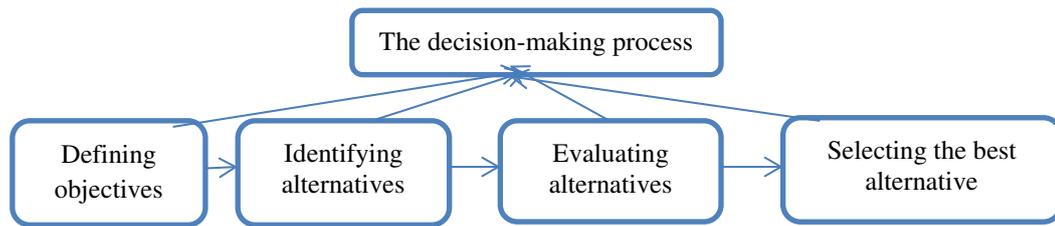
Uncertain decisions are a factor of great importance in management. Thus, the role of the management accountant increases, being the one who provides the manager with the information necessary to make decisions. The information should reflect the effects of the risk in conditions of uncertainty, but also the most likely level of results that can be obtained as a result of their application. In order for the cost system information to be as objective and relevant as possible, it must meet certain requirements, such as:

- Is the cost information system relevant from the point of view of the production of goods, execution of works, provision of services for the economic entity?
- Do the analyses, reports, situations that constitute the outputs of the cost information system contain information relevant to the purpose of the economic entity? Are those outputs communicated to managers in a timely and regular manner so as not to lose their efficiency? Are they answers to decision makers' questions?
- Is the information relevant, sufficiently detailed and focused on the purpose of the economic entity?

Knowing the costs is an important factor in planning activities and making the best managerial decisions. The role of the cost information system consists essentially in the analysis of standard and real costs attributed to operations, processes, activities or products, the establishment of budgets and the profitability of resources consumed. Avoidable costs are relevant to the decision. An avoidable cost can be eliminated in whole or in part as a result of choosing an alternative from several possible ones. As a result of knowing the costs they can or cannot control, the scope of the cost, managers can make reasonable, informed decisions.

The decision concludes the process by which one chooses between two or more alternatives that compete to achieve the objectives of an economic entity. The decision-making process can be outlined as in figure no.1, as follows:

Figure no. 1. Steps taken in the decision-making process



Source: (Horngren, Datar and Foster, 2006)

The decisions are based on the cost information considered to be the most relevant, respectively - complete, coherent and in the appropriate form. There is a difference between a good decision and a good result, as the result is influenced not only by the decision, but also by factors such as the cost of the information system, the condition followed by the decision maker, the attitude of the decision maker.

5. The costs associated with making managerial decisions

Management accounting seeks to provide managers with that cost information system that leads managers to make informed decisions. Information about costs is important in the decision-making process for at least several reasons: costs are the basis for pricing, cost is the basis for producing, purchasing or abandoning a product, what costs contribute to decision making, what to give up, if an alternative is chosen on the other hand, how to act on them, etc. Costs are an important variable in forecasting cash flows. The consumption of human and informational resources helps to develop the decision-making process, and the necessary volume of resources can be calculated with the help of the mathematical relation:

$$VR_{ip} = q_i \times N_{ip},$$

where: q_i - represents the volume of works corresponding to activity i

N_{ip} - represents the consumption norm for activity i and resource p , taken from the INCERC norms

Based on the respective calculation, the extracts of labour, equipment, materials, means of transport are prepared, for the total consumptions from each resource.

In order to analyse the results obtained as a result of the decisions taken, the cost indicator per 1000 lei of finished production is determined, with the help of which the overall result of an entity can be predicted, respectively, if the planned budget for obtaining a product, execution of a work or service was or not exceeded, by reporting the total final cost, at the planned price.

$$\text{Degree of fulfilment} = (\text{total cost})/(\text{planned price}) \times 1000$$

Cost is a critical estimate of efficiency, and increasing efficiency, both financially and non-financially, has been a concern of managers of all time. A significant increase in efficiency is obtained by eliminating the activities and processes underlying the realization of production that does not add value or by amplifying those that bring value to the products, works performed or services provided. The effectiveness of continuous improvement decisions is given by the evolution over time of costs and the dynamics of financial return. Costs must be correctly defined, estimated and allocated and constantly correlated with financial performance. This is very well included in the calculation of activity costs - a relatively new approach to accounting and cost analysis.

Functional cost management systems are based on the assumption that all costs can be divided into fixed costs and variable costs, which allows mathematical-economic modelling of variable cost behaviour depending on the physical volume of production, while fixed costs are dependent on a series of factors, the most important of which is time.

Based on the dichotomy of fixed and variable costs in economic theory and practice is based one of the most basic methods of analysis and management of the basic parameters of the production activity of business organizations, namely - cost-volume-profit analysis (CVP) which in the Romanian literature it is known as the break-even method.

This method is a useful tool in the planning and decision process. Because the CVP analysis highlights the correlation between costs, the physical volume of production and the selling price of production, it combines information of a financial nature reflecting the most important aspects of the business organization's activity. CVP analysis is a technique used to identify the extent and size of economic issues facing the entity, helping to determine the optimal solution to address those issues.

Costs can be divided into fixed costs - dependent on a number of factors, of which an important role is that of the time factor and variable costs - which can be modeled according to the physical volume of production. The method of analysis and management of the basic parameters within the activity of an economic entity with a production profile is called the cost-volume-profit analysis (CVP) or the profitability threshold method. The method itself reflects the most important aspects of the activity of an economic entity and is a useful tool in the planning and decision process, highlighting the correlation between costs, the physical volume of production and the selling price of production.

6. Cost-volume-profit analysis (CVP) in physical and value expression

Managers use cost-volume-profit analysis as a support in making decisions, and even strategic decisions of an economic entity. CVP analysis is the tool that helps managers understand how the total costs and revenues of a product and operating profit will evolve if production volume, selling price, fixed and variable costs change. Assessing the impact of costs on the entity's financial performance is particularly complex. As we are interested in how costs, revenues and profits behave in the physical volume of production, in the first phase we will determine the threshold of profitability in physical expression for an economic entity in production, using the operating profit method and the variable cost margin method. The authors use in the first phase the two methods to determine the critical point or the profitability threshold, after which they illustrate how they can be used in determining the physical quantity of production necessary to generate the desired profit.

Since the CVP analysis is performed in terms of the physical volume of production, the fixed and variable costs are first calculated in relation to the physical production obtained.

6.1. Cost-volume-profit analysis in physical expression

For this method, the data obtained from the management accounting or from the situation called the Profit and Loss Account are used, in which the profit is expressed with the following calculation relation:

Operating profit = sales revenue - variable costs - fixed costs

Expressing this relationship in physical units, it becomes:

Operating profit = (price x number of units) – (variable unit cost x number of units) - fixed cost
Total

In order to find out the profitability threshold expressed in physical units in the above expression, we consider that the number of units is unknown, and the operational profit is zero.

For example, we consider a commercial company whose object of activity is the production of electric scooters (32,000 units at a price of 12,000 lei/unit). From the Profit and Loss Account situation, we select the following values:

Sales	384.000.000 lei
Variable costs	256.000.000 lei
Variable cost margin	224.000.000 lei
Fixed costs	112.000.000 lei
Operational profit	112.000.000 lei

From the above data, the physical volume of the profitability threshold is calculated, based on the considered selling price of 12,000 lei/unit, the variable cost of 8,000 lei/unit and the total fixed cost of 112 million lei by equalizing the operating profit with zero, so:

$$0 = (12.000 \times Q) - (8.000 \text{ lei} \times Q) - 112.000.000 \text{ lei}$$

$$0 = 4.000 \text{ lei} \times Q - 112.000.000 \text{ lei, where}$$

$$4.000 \text{ lei} \times Q = 112.000.000 \text{ lei, is}$$

$$Q = 112.000.000 \text{ lei} : 4.000 \text{ lei}$$

$$Q = 28.000 \text{ units}$$

So this year, the physical volume of production must be equal to 28,000 units for revenues to cover costs.

6.1.1. Variable cost margin method

This method is based on the principle that in order to obtain the physical volume related to the break-even point, the variable cost margin is equal to the fixed costs, the calculation relation being the following:

$$MCV = CA - CV, \text{ unde:}$$

MCV - is the margin of variable expenses; CA - is turnover;

CV - represents variable costs

If the unit margin of the variable cost is substituted as the selling price minus the unit variable cost, in the equation of the operational profit and the equation is solved according to the physical volume of the production, then the solution of the equation will be:

$$Q = \text{Fixed costs} : \text{Unit margin of variable costs}$$

$$Q = 112.000.000 \text{ lei} : (12.000 \text{ lei} / \text{unit} - 8.000 \text{ lei} / \text{unit}) = 112.000.000 \text{ lei} : 4.000 \text{ lei} = 28.000 \text{ units}$$

We see that the break-even point calculated by the two methods is identical.

6.1.2. The physical volume needed to make the expected profit

Most economic entities, their managers, want to know at some point, what is the volume of activity that ensures the profit they want. The desired profit can be expressed both as a percentage of sales (profitability) and as value. The physical volume is determined to achieve a value profit equaling the profit with the desired value (56 million lei). In the considered example, for the value expressed profit, the equation will be:

$$56.000.000 \text{ lei} = (12.000 \text{ lei} \times Q) - (8.000 \text{ lei} \times Q) - 112.000 \text{ lei}$$

$$56.000.000 \text{ lei} + 112.000.000 \text{ lei} = (4.000 \text{ lei} \times Q)$$

$$168.000.000 \text{ lei} = (4.000 \text{ lei} \times Q)$$

$$Q = 168.000.000 \text{ lei} : 4.000 \text{ lei}$$

$$Q = 42.000 \text{ units}$$

and in order to achieve a profit expressed as a percentage of sales, the volume of activity required is determined as follows:

- we consider a profitability of 16%

$$16\% \times 12.000 \text{ lei} \times Q = (12.000 \text{ lei} \times Q) - (8.000 \text{ lei} \times Q) - 112.000.000 \text{ lei}$$

$$1.920 \times Q = (12.000 \text{ lei} \times Q) - (8.000 \text{ lei} \times Q) - 112.000 \text{ lei}$$

$$112.000.000 \text{ lei} = (2.080 \text{ lei} \times Q)$$

$$Q = 112.000.000 \text{ lei} : 2.080 \text{ lei}$$

$$Q = 53.846 \text{ units}$$

For the calculation of the net profit the following calculation relation is applied:

$$\text{Net profit} = \text{Operating profit} - \text{Income tax} = \text{Operating profit} - \text{Operating profit} \times \text{Income tax rate} = \text{Operating profit} \times (1 - \text{Income tax rate})$$

It is considered by the manager that the net profit wanted to be obtained is 67,200,000 lei under the conditions of a profit tax of 16%. For the operational profit the calculation relation will be:

$$67,200,000 = \text{Operating profit} - 0.16 \times \text{Operating profit}$$

$$67,200,000 \text{ lei} = 0.672 \times \text{Operating profit}$$

$$\text{Operational profit} = 100,000,000 \text{ lei}$$

Therefore, the physical volume necessary to generate an operating profit of 100,000,000 lei will be:

$$100.000.000 \text{ lei} = (12.000 \text{ lei} \times Q) - (8.000 \text{ lei} \times Q) - 112.000.000 \text{ lei}$$

$$100.000.000 \text{ lei} + 112.000.000 \text{ lei} = (4000 \text{ lei} \times Q)$$

$$212.000.000 \text{ lei} = (4.000 \text{ lei} \times Q)$$

$$Q = 212.000.000.000 \text{ lei} : 4.000 \text{ lei}$$

$$Q = 53.000 \text{ unități}$$

6.2. Cost-volume-profit analysis in value expression

The physical expression of the volume of activity can be transformed into a value expression by simply multiplying it by the selling price. The break-even point expressed in physical units can be converted into monetary units. There is a method of directly determining the value of sales that ensures the compensation of total costs and generates a zero profit, by which the variable costs are calculated as a percentage of the sales value, and not a unit variable cost. In this example, the difference between the price and the variable cost is represented by the unit margin of the variable costs, in the amount of 4,000 lei. If it is considered that 16,000 units of the considered product are sold, the total variable costs in the amount of 128,000,000 lei, and the value of sales of 191,000,000 lei, it is found that 66.66% of the total revenues represent variable costs, respectively from one leu-sale, 66.66% represent variable costs. We can calculate variable costs using the variable cost rate in total sales, which can be determined by using total costs or those per physical unit of product. What remains after the variables are covered in sales is the variable cost margin. In this example, the variable cost margin represents a percentage of 33.34% of sales, part called the variable cost margin rate. Regarding fixed costs, there will be three situations:

- if the variable cost margin is equal to the fixed costs, then the profit will be zero;

$$\text{Fixed costs} = \text{Variable cost margin}$$

- if the variable cost margin is lower than the fixed costs, then it fully covers the fixed costs and generates a profit, and

$$\text{Fixed costs} < \text{Variable cost margin}$$

- if the variable cost margin is lower than the value of the fixed costs, then their excess over the variable cost margin is a loss.

$$\text{Fixed costs} > \text{Variable cost margin}$$

The aspect can be illustrated, on the considered model, as follows:

Unit Name	Values	Shares
Sales	384.000.000 lei	100,00
Variable Costs:	256.000.000 lei	66,66
Variable cost margin:	224.000.000 lei	33,34
Fixed Costs:	112.000.000 lei	
Operating profit:	112.000.000 lei	

Variable costs hold 66.66% of total sales, and the difference of 33.34% represents the rate of variable cost margin. The break-even point in value is determined as follows:

$$\text{Operating profit} = \text{sales} - \text{variable costs} - \text{fixed costs}$$

$$0 = \text{sales} - (\text{variable cost rate} \times \text{sales}) - \text{fixed costs}$$

$$0 = \text{sales} \times (1 - \text{variable cost rate}) - \text{fixed costs}$$

$$0 = \text{sales} \times (1 - 0.6667) - 112,000,000 \text{ lei}$$

$$\text{sales} \times 0.3333 = 112,000,000 \text{ lei}$$

$$\text{sales} = 192,000,000 \text{ lei}$$

Applying the method of the variable cost margin to the relation of determining the profitability threshold in physical expression, in order to obtain the value expression, the first relation with the selling price is multiplied, as follows:

$$\begin{aligned} Q \times \text{price} &= \text{price} \times [\text{fixed costs: } (\text{price} - \text{variable unit cost}) \\ \text{Sales value} &= \text{fixed cost} \times [(\text{price: } \text{price} - \text{variable cost})] \\ \text{Sales value} &= \text{fixed cost} \times (\text{price: } \text{unit margin of variable costs}) \\ \text{Sales value} &= \text{fixed cost: } \text{variable cost margin rate} \end{aligned}$$

If we report the fixed cost of 112,000,000 lei with the variable cost margin rate of 33.34%, the value of sales related to the break-even point of 192,000,000 lei results, identical to the result obtained by the previously applied method.

Therefore, the value of sales required to reach a certain level of profit is obtained by adding to the fixed costs the desired profit. For example, in order to obtain a profit of 84,000,000 lei, the value of the necessary sales will be:

$$\begin{aligned} \text{Sales value} &= \text{fixed costs} + \text{desired profit: } \text{variable cost margin rate} \\ \text{Sales value} &= (112,000,000 + 84,000,000) : 0.3333 \\ \text{The value of sales} &= 588,058,806 \text{ lei} \end{aligned}$$

7. Results

The importance of this research lies in the fact that it helps us understand how the transformation of materials, raw materials, human resources, into products, works, services, practically generates consumptions that are nothing but costs. Therefore, at the level of an economic entity, cost is the essential element of the production and management process, it is the basis for optimal decisions at each level of the entity. Also, as a result of the study undertaken, the authors found that, in an economic entity, unit variable and fixed costs are rarely known with certainty. A change in one of these variables usually affects the others. The most common is the probability with which each level of the variable can appear in reality. Most decisions that affect the momentary aspect have major consequences on the indicators that characterize longer periods of time.

Therefore, the general objective of the decision-making process of an economic entity is to select the alternative that leads in the long run to obtaining and sustaining sustainable competitive advantages. Thus, an efficient process should lead not only to immediate effects targeted by management, but to sustain and create the conditions conducive to the achievement of strategic objectives and the purpose of economic entity. The general objective of the decision-making process is to select the alternative that leads in the long run to obtaining and sustaining sustainable competitive advantages. In these circumstances, decisions must support the overall objective even if the immediate effects of the decisions are small or have a short-term perspective.

8. Conclusions

In the current context of economic development, in the decision-making process, it is relevant to achieve an overview of the use of cost information. Regardless of the field of activity, making a well-founded decision influences the activity of the economic entity. Decentralization of decision-making can lead to increased management efficiency, as it eliminates distortions and delays in sending and receiving information in various departments within the economic entity. Long-term cost analysis involves studying the evolution of costs over a one-year period, in which all factors of production are variable, and short-term cost analysis involves taking into account certain factors of production.

Thus, the general objective of the decision-making process of an economic entity is to select the alternative that leads in the long run to obtaining and sustaining sustainable competitive advantages. In these circumstances, decisions must support the overall objective even if the immediate effects of the decisions are small or have a short-term perspective. Therefore, an effective process should lead not only to the immediate effects targeted by management, but also to

sustain and create the conditions conducive to the achievement of strategic objectives and the purpose of economic entity.

9. References

- Blocher E., Stout D., Cokins G., 2012. *Cost Management: A strategic, Emphasis*, 6th Edition. McGraw-Hill Publishing House
- Căpușneanu S., 2008. *Elements of cost management*. Bucharest: Economica Publishing
- Colasse B., Lesage C., Tabără N., 2011. *Introduction in accounting*. Iași: Tipo Moldova Publishing House
- Cokins G., 2010. *Strategic Business Management: From Planning to Performance*. AICPA
- Ebbeken K., Possler L., Ristea M., 2000. *Calculation and cost management*. Bucharest: Teora Publishing House
- Horngren Ch., Datar S, Foster G., 2006. *Cost Accounting – A Managerial Approach*, 11th Edition. Bucharest: Arc Publishing House
- Zimmerman J., 2002. *Accounting for Decision Making and Control*. McGraw-Hill/Irwin Publishing House.