# PROSPECTS OF MANAGEMENT ACCOUNTING AND COST CALCULATION

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***Abstract**: Progress in improving production technology requires appropriate measures to achieve an efficient management of costs. This raises the need for continuous improvement of management accounting and cost calculation. Accounting information in general, and management accounting information in particular, have gained importance in the current economic conditions, which are characterized by risk and uncertainty. The future development of management accounting and cost calculation is essential to meet the information needs of management.*

***Keywords**: management accounting, cost calculation, prospects*

**JEL Classification Codes: M40, M41**

## 1. INTRODUCTION

Accounting, seen both as a science and a practical activity, has evolved in close connection with mankind's economic and social existence, gaining increasingly complex forms in the course of time. Practical experience has generally influenced accounting theory, which actually distinguishes accounting and accountancy from other sciences.

The modern view of enterprise management maintains that results are aimed at not only globally, at senior management level, but also in each activity conducted at the lower hierarchical levels. In this connection, finding and defining methods and techniques of quantification, measurement and control of the results the management of each department is a key issue. To solve this problem an important role is held by management accounting and cost calculation, as methods used by managers for information, knowledge and control of the production process. Modern management accounting should provide information on the composition of costs, not only on their overall level. The calculation techniques developed in recent decades have greatly simplified accounting activities, reducing the workload. The evolution of management accounting in the last decades has been marked by the transition from a provider of financial information to a system of tools used by enterprise management in order to develop the strategy, liaise with the external environment, and make economic forecasts. In other words, management accounting has evolved from cost calculation to cost management. In recent decades, management accounting tools and their role have been the subject of numerous researches, which have started from the idea that the instruments considered traditional are insufficient, and new ones have to be proposed.

Adopting a type of cost calculation likely to meet the needs of management requires knowledge of the theoretical and applied problems of cost calculation, both in depth and in all their complexity. The role and importance of cost calculation for decision making at the enterprise level acquires new, ampler dimensions under these circumstances.

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In the above-mentioned context, the question naturally arises, "What are the prospects for management accounting and cost calculation?".

## 2. EVOLUTION OF MANAGEMENT ACCOUNTING AND COST CALCULATION

The evolution of management accounting and cost calculation has undergone a series of transformations that followed the developments of the economic environment in general, and of the industry in particular. In recent decades much has been written about the beginnings and evolution of management accounting.

Main contributions to the domain have been those of A. Loft (1995)[2], R. Roslender (1995)[3] and H.T. Johnson, R.S. Kaplan (1987)[4] and others. Worldwide, the study of costs has a history in which several phases can be distinguished, as shown by S. Căpuşneanu (2008)[5]. Business development in the sixteenth and seventeenth centuries led to the necessity of knowing costs as accurately as possible. Cost calculation or costing was gradually developed and systematized, and its fusion with accountancy led to the emergence of management accounting.

In the nineteenth century, management accounting was quite developed and provided the information necessary for the management of large-scale production of textiles, steel and other products. In the early twentieth century, under the influence of increasing taxation, the requirements in the field of financial accounting increased, and numerous accountants channelled their efforts towards working out their financial reports on time and in accordance with the rules of the time. That was the main main reason why the practice of management accounting saw stagnation. However, as the economy evolved, after World War One companies extended their activities, and the need was felt to develop a kind of management accounting apt to meet the information needs of efficient management.

## 3. CURRENT CHALLENGES THAT MANAGEMENT ACCOUNTING AND COST CALCULATION HAVE TO COPE WITH

Management accounting should be organized so as to be a useful tool for management, and therefore management objectives should be considered, to begin with. The information provided by management accounting must have a number of qualities: being obtained in due time, being valuable, being relevant to the responsibilities of managers, and also relevant to the formulation of the decision.

The word *relevant* is frequently used in connection with management accounting. In this connection, the titles of two reference works in the field may be mentioned: *Relevance Lost – The Rise and Fall of Management Accounting* (H.T. Johnson and R.S. Kaplan, 1987) and *Relevance Regained* (H.T. Johnson, 1992). The relevance of management accounting is fundamental to achieving its objectives and fulfilling its functions. Management accounting is a component of the management accounting system existing at the enterprise level, as can be seen in Fig. 1 This system includes, in addition to management accounting: financial accounting, internal audit, management control and green accounting.

[2] Loft A., *The history of management accounting: relevance found.* în: D. Ashton, T. Hopper & R. W. Scapens (Eds), Issues in Management Accounting. Prentice Hall, London & New York 1995, pp. 17–38;
[3] Roslender R., *Accounting for strategic positioning: responding to the crisis in management accounting*. British Journal of Management, 6 (1), 1995, pp. 45–57;
[4] Johnson H. T., Kaplan, R. S., *Relevance lost: the rise and fall of management accounting*, Harvard Business School Press, Boston, 1987;
[5] Căpuşneanu S., *Elemente de management al costurilor / Elements of cost management*, Economica Publishing House, Bucharest, 2008, p. 17;

The green accounting aims to incorporate informations about environmental performance into the process of decision-making. Organising a "green" accountancy is both a challenge and a necessity for accountants in businesses in the current context. Green accounting can be implemented at the level of both financial accounting and management accounting.

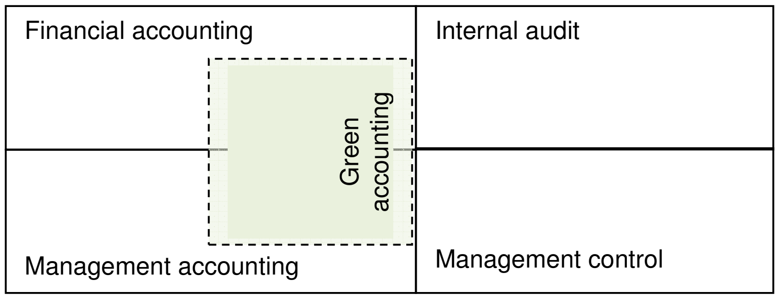


**Figure 1. Components of management accounting system, in the author's opinion**

Source: Țaicu M., *Relevance of the performance-cost-value triad in the managerial accounting of firms in the bakery industry*, PhD thesis, University of Craiova, 2012

The borderline between management and accounting is difficult to distinguish in a strict sense. The relationship between the system of managerial accounting and management is a two-way relationship: the accounting information system conveys information necessary for making decisions, and the management conveys decisions to the system they head, a system that includes the company's accounting system. This relationship is illustrated graphically in Figure 2.

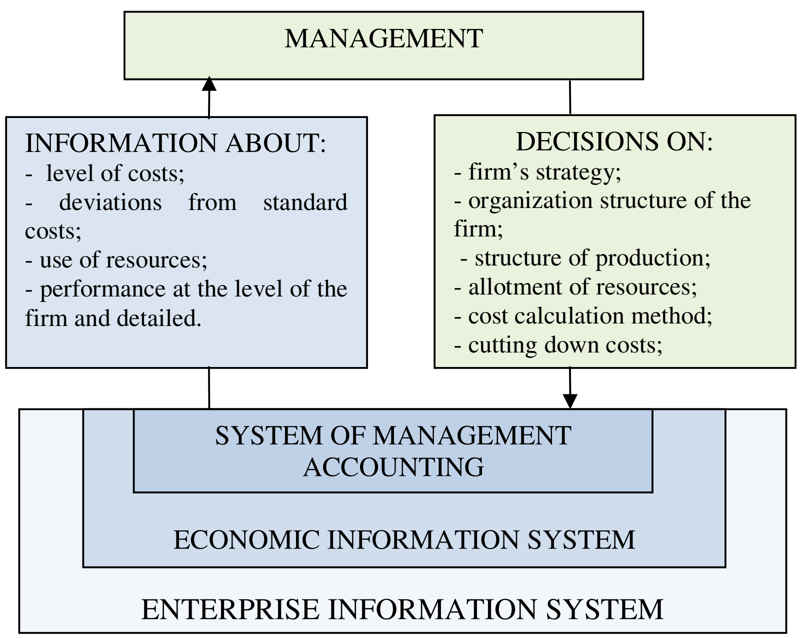


**Figure 2. The relationship between the management and the enterprise information system**
Source: developed by the author

L. Paliu Popa emphasizes[6] the part played by accountancy in "ensuring the permanent connection between the decision-making (management) and the operational (execution) system".

Since management accounting and costing are tools available for the use of managers, they should contribute to meeting management functions. Table 1 briefly presents how these tools contribute to fulfilling the functions of management.

**Table 1. The relationship between management functions and management accounting**

| Nr. | Functions of management | Contribution of management accounting |
|---|---|---|
| 1 | Forecasting | Information on evolution of costs and their structure can be used for making predictions |
| 2 | Organizing | Information on performance by enterprise division, and then, in detail, down to product level, serve for deciding on organizing the firm and establishing the structure of production |
| 3 | Coordination | The information provided is used to optimize the use of resources (need resulting from the limited character of the resources) |
| 4 | Drive | Setting targets to be achieved (standard costs) |
| 5 | Assessment and control | Calculation and analysis of deviations from the standard serve to assess the extent of achieving proposed performance. |

Souce: developed by the author

While financial accounting is oriented towards the past, management accounting is future-oriented. All the components of management accounting are future-oriented, even if at times they look at the past. Thus, cost calculation, establishing performance by product, planning and forecasting work with data from the past, yet their purpose is to improve the future performance of the company. Management accounting provides the information necessary to analyze the deviations and make the corrective decisions. In other words, management accounting "assists" the control function of management, identifying the "problem-fraught" activities of the firm, as S. Căpuşneanu states (2008)[7].

Modern enterprises have to face the changes that have occurred at both macroeconomic and microeconomic levels. Management accounting and cost calculation must adapt and respond to the challenges posed by these changes.

Environment changes occur constantly, having a significant impact on businesses and their management. These changes can be divided into five broad categories:

- globalization – to remain competitive the company makes a series of efforts that result in raising indirect costs. In this context, management of indirect costs / overheads requires an appropriate tool;
- increased risks due to uncertainty caused by factors such as changing consumer attitudes, shortening product life-cycle, etc.
- segmenting markets – consumers show increasingly diversified preferences, and businesses have to propose a range of products that should meet their expectations;
- rapid developments in technology and information technology, which compel

[6] Paliu Popa L., *Accounting, an essential component of the information system*, Annals of the "Constantin Brancusi" University of Targu Jiu, Economy Series, Issue 1/2013, pp. 66-73;

[7] Căpuşneanu S., *Contabilitate managerială aprofundată / Advanced management accountancy*, ASE Publishing House, Bucharest, 2009, p. 13

companies to adapt constantly. Companies must bring forth new products to maintain them abreast of consumer preferences;

- more and more serious social and environmental issues – the public opinion has become more sensitive to the questions of social and environmental performance of the modern enterprise. Current legislation compels businesses to respect standards in this area. Management accounting must respond to these new developments and give managers the necessary tool for a proper management of the overall performance of the company.

In recent decades we have witnessed a steady increase in the share of the indirect costs of the enterprise. In traditional methods, the indirect costs are allocated arbitrarily, based on distribution keys that are variable and little relevant, more often than not dependent on the amount of work performed (labour hours and machine hours, between which there is a causal relationship). Due to technical progress, direct labour today no longer has the same share in the total cost as it did before. In many areas of activity a shift was seen from work by product to the management of software that control the machines with which products are made. With computerization and automation there occurs an increase in expenditure for management and control activities.

The rapid changes in the external environment of the enterprise had the effect that there appeared new requirements in management accounting and management accountants. These requirements primarily refer to the nature of information provided to managers. In this context, it was essential to reposition management accountants in the hierarchy of the organization, given that the information provided by them is used by managers in formulating strategies. Focus shifted from historical, internal and financial information to future-oriented, non-financial, internal and external information.

## 4. WAYS OF IMPROVING MANAGEMENT ACCOUNTING AND COST CALCULATION

The literature of the field is rich in papers dealing with the need for, and solutions to improve management accounting and cost calculation. In its evolution, management accounting has followed the main developments in the field of organizational strategies, albeit with a delay of one or two decades. C. Iacob et al (2007)[8] states that "cost is a construct, it only makes sense in a given scenario." The authors point out that if a cost is a construct, then the concept of "real" becomes "a bit ambiguous and relative."

In the current economic and technological conditions, production cost structure substantially differs from that in the era of "smokestake industries", in A. Toffler's terms. Traditional costing methods were developed mainly in the first half of the twentieth century and are characteristic of the type of conducting production then existing. A few decades ago direct costs accounted for 90% of total costs[9]. Arbitrary allocation of indirect expenses, under those conditions, led to relevant results. Traditionally, in the field of management accounting and cost calculation solutions were adopted to cover shortfalls rather than eliminating them, as pointed out Fiévez and Staykov (2007) [10].

[8] Iacob C., Ionescu I., Goagără D., *Contabilitate de gestiune conform cu practica internațională / Management accounting in keeping with international practices*, Universitaria Publishing House, Craiova, 2007, p. 16

[9] Dumitru, M., Calu, D.A, *Contabilitate de gestiune şi calculaţia costurilor / Management accountancy and cost calculation*, Contaplus Publishing House, Ploieşti, 2008, p. 170

[10] Fiévez, J., Staykov, D., *La méthode UVA. Une aide à la décision pour les PME*, RF Comptable, no. 341, pp. 33-35, July-August 2007

In Table 2 are summarized the main shortcomings of traditional management accounting, the solutions traditionally used to remedy them, and a number of solutions required in the present context.

**Table 2. Shortcomings of traditional management accounting**

| Shortcomings of traditional management accounting | Traditional solutions | Solutions needed in the current context |
|---|---|---|
| ➢ allocation of indirect costs is done by choosing an arbitrary keys;<br>➢ social and environmental performance is not reflected;<br>➢ calculated costs are sometimes irrelevant for decision-making;<br>➢ some products performances are overshadowed by the negative results of other products;<br>➢ quite frequently sales profitability by product, customer or geographical area is not known;<br>➢ "perfect" calculation methods are very complex and difficult to apply in businesses. | ➢ measures to reduce fixed costs;<br>➢ attempts to increase sales volume to better cover fixed costs;<br>➢ measures of reducing costs to maintain profitability, often impacting on product quality;<br>➢ establishing cost standards;<br>➢ launching new products with better performances to cover the losses in other products;<br>➢ giving up certain products, specific markets or customers;<br>➢ devising new methods of cost calculation to eliminate the shortcomings of the old methods. | ➢ designing an appropriate information system;<br>➢ adjusting costing methods to the new technologies;<br>➢ adopting new methods of cost calculation that better respond to the need to conduct a management of overall performance;<br>➢ using modern information technology to get information as quickly as possible and transmit it to managers to enable them to rapidly make decisions;<br>➢ re-training the staff;<br>➢ achieving a global performance management (economic and financial, social and environmental);<br>➢ using modern instruments for performance monitoring. |

Source: developed by the author

Budugan et al (2007)[11] believes that "organizing and managing management accounting (...) should essentially allow control of production factors with a view to obtaining high quality goods and services quality at reasonable costs."

In the literature, the very organization of accounting in a two-tier system is questioned. Thus, according to Professor O. Călin (2010) [12], conducting accounting in a double circuit system is a limit to the accounting system as it leads to high workloads, causing many businesses to abandon the second circuit – management accounting and cost calculation. The activity of the business will be examined and evaluated only by financial accounting, thus depriving the management of invaluable information.

O. Călin (2010) [13] proposes a model to be applied of integrated financial accounting and management concerning costs and cost calculation. This type of modelling considers a fusion between accounts in class 6 "expense accounts" and those in class 9 "management accounts" of the general plan of accounts, in compliance with grouping expenses in financial accounting in keeping with the three categories – operating expenses, financial expenses and extraordinary expenses, monthly reimbursement of expenses through the profit or loss account to establish the global result in financial accounting, while having the possibility to establish the analytical results in management accounting.

[11] Budugan D., Georgescu I., Berheci I., Bețianu L., *Contabilitate de gestiune / Management accountancy*, CECCAR Publishing House, Bucharest, 2007, p. 18
[12] Călin O., *Directions for improvement of the managerial accounting*, Lex ET Scientia International Journal - Economic Series, vol. XVII, nr. 2/2010, pp. 175-185
[13] Călin O., *Op.cit*, pp. 175-185

I. Ionaşcu (2003)[14], referring to the organization of the company's accounting, said: "In response to the question whether to *break up* the firm's accounting into two autonomous informational modules, i.e. management accounting operating autonomously from financial accounting so as the latter to satisfy the current information needs, our answer is: no! Accounting in a firm must be organized in such a way as to provide useful information to various users, and so the criterion that validates the model of the organization of the firm accounting is the usefulness of information".

Organizing cost calculation within the enterprise has recognition of the object of calculation as a starting point. The object of calculation must be determined taking into account the organization and the particular aspects of the firm's activity. In enterprises with assets, subject to calculation may be a product (or a group of products), a service, a job, a commission, a place of expenses, etc. The second step in the process of organizing cost calculation is the choice of the method of calculation.

There are a variety of calculation methods, each with its advantages and disadvantages. Choosing the method of calculation should be done with regard to the particularities of the company and the information needs of the managers. To increase the efficiency of the economic information system it is necessary to organize the accounting calculation in accordance with forecasting and statistical calculation. This will ensure comparability between forecasting, statistical and accounting data. Organizing an appropriate management accounting in view of the needs of the company should not exclude the use of tools provided by other sciences. Author Gh. Săvoiu[15] stresses the idea that "statistical methods, tools and even concepts are constantly applied, with a major impact, since no simplified and formalized presentation of an economic phenomenon can be made without their help."

As regards the method used in cost calculation or costing, the organization may choose one of the following two options:

- improving the costing method they have already been using;
- adopting a new method of cost calculation, likely to better meet the information needs of managers, and adapting it to the specific needs and issues of the company.

Either choice has both advantages and disadvantages. If one opts for improving the current calculation method, the costs are lower but one should consider the irremoveable limitations of the method. Adopting a new method of calculation has the advantage of eliminating many of the disadvantages of the method used previously. However, one must keep in mind that the methods are designed to eliminate the shortcomings of previous methods lose sight of other issues, which will become their own limits. Also, one should consider the costs involved in adopting a new method of calculation (adapting it to the specific issues of the enterprise, staff training, possibly purchasing a different accounting software, etc.). The option of adopting a new method of calculation can bring long-term benefits despite the implementation costs that can sometimes be quite high.

The risks[16] concerning the quality of the information about the costs of the enterprise can

[14] Ionaşcu I., *Dinamica doctrinelor contabilității contemporane. Studii privind paradigmele şi practicile contabilității / Dynamics of the doctrines of today's accountancy. Studies on the paradigms and practices of accountancy*, Economica Publishing House, Bucharest, 2003, p. 134

[15] Săvoiu Gh., *Statistică pentru afaceri / Statistics for business*, Universitara Publishing House, Bucharest, 2011, p. 214

[16] Țaicu M., Răducu I. V., Lungu I., *Riscuri privind calitatea informației de tip cost în industria alimentară*, Progrese în teoria deciziilor economice în condiții de risc şi incertitudine, / *Risks to the quality of cost information, in the food industry*, Progress in the theory of economic decisions under risk and uncertainty, vol. XXIII, Tehnopress Publishing House, Iaşi, 2013, pp. 40-46

be traced in keeping with the logic of obtaining it, all the way from designing the information system, where an essential role is played by the manager, and down to interpreting the findings. These sources of risk can be grouped into six main categories, as shown in Figure 3.

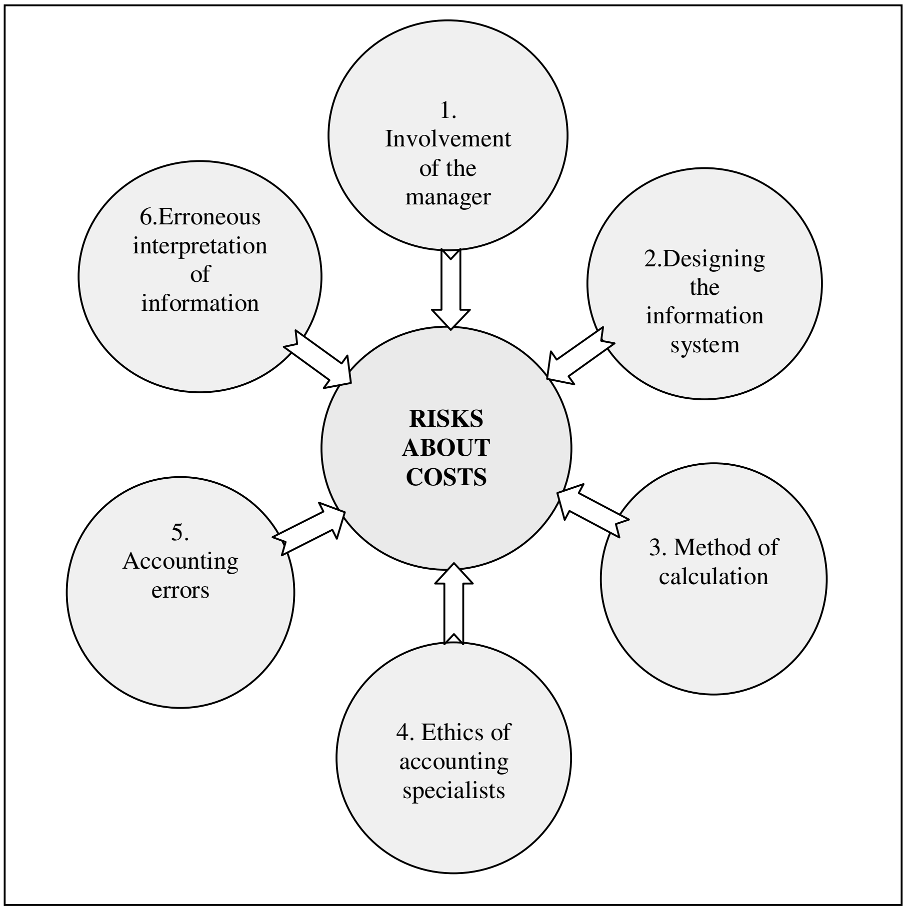


**Figure 3. Sources of risks to the quality of cost information**

Source: Țaicu M., Răducu I. V., Lungu I., *Riscuri privind calitatea informației de tip cost în industria alimentară*, Progrese în teoria deciziilor economice în condiții de risc şi incertitudine, vol. XXIII, Tehnopress Publishing House, Iaşi, pp. 40-46, 2013

The process of designing the information system and the choice of the calculation method virtually mean organizing management accounting and cost calculation within the enterprise. Designing a costing system should start with a thorough study of the activity in the enterprise. It is the costing system of the company that has to adapt to the operating activities of the enterprise, not vice versa. Any significant change in the company's processes must be followed as soon as possible by the adaptation of the costing system.

Organizing management accounting and cost calculation for the enterprise is influenced by a number of factors, summarized in Table 3. It is these specific factors that must be considered whenever any attempt is done to organize the enterprise's accounting system.

**Table 3. The factors that determine the organization of management accounting and cost calculation**

| Factors | | Short description |
|---|---|---|
| **Subjective** | Management vision and involvement | The management methods and techniques adopted determine either choosing a classical calculation method (be it global, phased, or by commission) requiring two sets of calculations, predefined calculation and post-calculation, or choosing a forecasting calculation method (standard costs) to ensure an increase in the efficiency of information and operational control of costs. |
| | Cultural factors | Organizing management accounting and cost calculation is influenced by the culture of a nation, by social, political and religious factors. |
| | Staff training and involvement | These are essential, from the correct implementation and application of a method of cost calculation up to analyses based on the information obtained. |
| **Objective** | Type of production | Specific costing methods are suitable to each type of production. Thus, the method by product, the method by commission or M.H.R. are recommendable for enterprises with individual production. In keeping with the targets of the management of the enterprise, the method of standard cost can be used. |
| | Production technology | By production technology is understood the sum of the successive operations that raw materials go through, in the various processing stages, up to obtaining the final product, which influences the type of documents that must be filled in. |
| | Mechanization and automation of production | In units having a complex mechanized or automated process of production, determining the cost by cost carrier is requisite at this level, which will reduce the number of intermediate calculations needed to calculate the cost of the product. |
| | Continuity of the production process | In enterprises having continuous production, working all the year round, effective cost per unit is calculated at the end of each period of inventory by articles of calculation. For enterprises with seasonal activity, calculation of effective cost per unit is done only within the period of activity. |
| | Organization structure of the enterprise | It represents the framework management accounting is built on and has an influence through its two components: the structure of production and conception and the functional structure. |
| | The manner of conducting production | It determines the method of accounting and costing used by the enterprise. Specific methods of calculation are suitable for each type of production. Thus, for themetode de calculație. These methods can also be used for serial production. în cazul producției de serie. In keeping with the targets of the management of the enterprise, the method of standard cost can be used. |
| | Information system used | Quite naturally, the information system used must be adapted to the needs of the enterprise. The costs generated by purchasing and implementing such an information system represent a constraint for many small enterprises having limited resources. |

Source: developed by the author

In organizing management accounting, businesses can choose the methods and procedures deemed appropriate to their information needs. Keeping a management accounting for the company involves the use of a chart of accounts, a set of documents, methods, rules, procedures and means appropriate to that accounting subsystem, which are required to observe and use / apply after they are developed or adopted. They are the result of a process of standardization and internal normalization, where an important role is played by the management accounting.

The factors influencing the organization of management accounting and cost calculation in the company can be divided into two categories. On the one hand, we have the subjective factors, which differ both from one country to another, and from one company to another. The objective factors actually reflect the company's specificity rather accurately. Two businesses identical with respect to the objective factors yet different with respect to the subjective factors will adopt different management accounting systems. In addition to the information needs of management, in organizing and conducting management accounting and cost calculation in the company, a significant role is exerted by political, cultural and religious influences. G. Hofstede (1984)[17] made a classification of the countries of the world based on multiple criteria, including cultural ones. Each nation's culture is characterized by a set of values and own rules, which are developed by several generations, as the result of historical developments. Culture plays an important role in the reasoning of individuals, their ethics and attitudes, being passed from one generation to another through education, socialization and religion.

However, it is not only the organization of management accounting and cost calculation that is influenced by cultural factors. The manner of reporting enterprise performance is also influenced by the specific culture of each nation. To support the above claim, an apt example will be that of the origins of two kinds of monitoring and reporting the performance of the enterprise. Dashboard and Balanced Scorecard are two performance management systems with different cultural roots as shown by A. Bourguignon et al. (2001)[18]: the French and the American system, respectively.

Choosing the cost calculation method is crucial for the successful approach to organizing a cost calculation likely to meet information needs. In general, the evolution of the methods of calculation is characterized by their increasing complexity. There are however exceptions to this rule. In this regard we can mention the case of the ABC method, which is a milestone in the cost calculation, but proved difficult to implement and apply in individual businesses. The researches that have been undertaken to date have shown that the ABC method, given its complexity, is not the desired solution in the field of cost calculation. Aware of its limitations, Kaplan and Anderson have proposed a development of it: Time Driven ABC. In TDABC more operations are measured by means of one measure only: time. It is a principle of the methods based on constant reports, adopted precisely on account of its advantages. The methods based on the principle of constant reports emerged in response to the inaccurate cost determined by other methods of calculation, and the workload required to allocate indirect costs.

Using Business Intelligence systems can help management to gain efficient, operative information. L. Bănică et al (2014)[19] states that "the purpose of Business Intelligence (BI) software is to help the firms acquire knowledge about highlights and dangerous trends, to observe the connections and to forecast the future market evolutions". But one should bear in mind that the use of such modern computing systems facilitates management accounting work, yet staff training and involvement are essential to analyze and interpret the findings.

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[17] Hofstede G., *Culture's consequences: international differences in work-related values*, Sage, Beverly Hills, London, 1984

[18] Bourguignon A., Malleret V., Norreklit H., B*alanced Scorecard versus French tableau de bord: beyond dispute, a cultural and ideological perspective*, available on: http://www.hec.edu/var/fre/storage/original/application/b238ea034d08e3b258e080d334376553.pdf, accessed September 2014

[19] Bănică L., Ştefan L.C., Jurian M., *Business Intelligence for Educational Purpose*, Balkan Region Conference on Engineering and Business Education, Vol. 1, Issue 1, 2014

## 5. CONCLUSIONS

Costs play an increasingly important role in internal reporting. Since the market price is determined by the laws of supply and demand, businesses are performing only to the extent that they succeed in mastering costs. Internal reports contain information on the revenue, costs and results of a company. The information provided to managers must be synthetic, comprehensive and easy to understand, and it must be submitted just on time in order for decisions to produce the expected effects. Accurate knowledge of the level of costs is highly recommendable and has implications for decisions in the company. The importance of information on the cost is given by increasing competitive pressures as a result of globalization, and the increasing number of products and manufacturing processes, the effect of diversification strategies.

The forecasting function of management accounting is becoming increasingly important, but its core remains costing, as it provides opportunities for enterprise performance management through knowing and mastering costs. Practitioners have a choice between a partial cost, which often proves insufficient, and a copmlete cost, whose determination is complex, consumes significant resources and is characterized by arbitrariness given by using allocation keys. In the active process of improving and diversifying the methods of cos calculation in businesses, it is necessary to consider two fundamental issues. The first aspect is related to the reduction of workload for obtaining information on production costs, and thus reducing the cost of obtaining such information. The second aspect concerns the superior capitalization of the information obtained, thus increasing the efficiency of the information system. Turning to account information means making available for the management a support tool in decision-making, which results in increased accountability for all decision-makers.

In conclusion, management accounting and cost calculation should not be seen as an end in itself, but rather as a means to provide information support for decision making. Cost calculation is just a stage that allows mastery and control of costs. Mastering costs means limiting the tendencies to exceed their allowable level, thus eliminating waste of company resources.

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