MODERN MANAGEMENT - A NEEDED SOLUTION FOR INCREASING THE COMPETITIVENESS OF INDUSTRIAL COMPANIES

Gabriel BORSOS, Cosmin Constantin IACOB, Gavrilă CALEFARIU

"Transilvania" University of Brasov, Romania

DOI: 10.19062/2247-3173.2016.18.2.31

Abstract: *In the current economic context, implementing a modern management system is a "sine qua non" condition for the survival of Romanian companies in the domain of industrial production. Implementation within production systems of management methods and techniques enshrined as "lean manufacturing" or more recently "lean six sigma" can lead to achieving exceptional results in terms of performance of the organization. Managerial theory does not offer recommendations on how business managers must choose the most effective methods of production management systems to meet performance and competitiveness objectives.*
In this paper are presented the results of theoretical research of authors on the issue of the most effective methods and techniques of production management systems that managers should adopt in order to increase their performance. The study shows as approach model to operations, diagnostic model organization and a model of proactive assessment management system in terms of effectiveness. The paper aims to open a gate to the development of tools to assist managers in the capable leadership, regardless of their abilities (like car navigation systems).

Keywords: *management, competitiveness, management methods, performance.*

1. INTRODUCTION

In an environment characterized by economic and business dynamism, the success and very existence of companies also depends on the capability of the industrial processes taking place within these companies and the accuracy of management processes.

To face the competition the organizations must adapt their processes in order to respond as promptly to all customer requirements and even anticipate future demands too.

In this context, over time, there were a series of management concepts that support managers in their attempt to take the best decisions in order to increase competitiveness of the companies they manage.

Grouped under the generic name of World Class Manufacturing (WCM) these methods and techniques are based on the famous model of the Toyota Production System (Toyota Production System), which revolutionized the industry since the second half of the twentieth century [1].

The implementation of management systems based on methods and concepts as Kaizen, 5S, Just-in-time, lean manufacturing, have been proved by the success that companies have had these systems works.

The literature is replete with descriptions of these management tools, and industrial practice are common in cases of enterprises that consider appropriate to use such instruments.

Analyzing Romania’s capital structure of companies that have implemented modern management systems, we concluded that these are mostly private and most of them are subsidiaries of foreign multinationals.

Also, research led us to the conclusion that the share of small companies that adopted modern management methods is extremely low, although they represent over 90% of all companies.

A brief overview of the main factors influencing the performance of the company (owner-manager's influence, access to the latest technology, flexibility, etc.) and highlights reveals the reasons why SMEs are among "latest" modernizing management (entrepreneurship training owner reduced financial strength, etc.).

Starting from these premises, we tried to create a model, a tool, at least in theory, able to guide in the competitive and extensive managerial methodology "jungle”.

2. THEORETICAL CONSIDERATIONS

The evolution of a company, regardless of the activity, is the direct result of the concerted action of all factors of influence on the endogenous and / or exogenous environment of the organization.

Nicolescu and Verboncu [2] states that the functionality and competitiveness of an organization requires a management system adapted to the situation therein and the socio-economic context in which it operates.

This may be supplemented considering that a company's success depends to some extent on its ability to project the future activity that is the ability of managers to anticipate future developments in environmental conditions and act accordingly.

The management theory and practice speaks about the organization's performance and about competitiveness as well. Although they can be dealt with separately, in practice these two concepts are indivisible.

2.1 Organization Performance. Enterprise performance can be briefly defined as the degree of fulfillment of the objectives.

Peter Drucker [3] states that in order to be efficient, an organization must establish its goals in several "key areas of performance 'market position, productivity, innovation, profitability, resources, management development, the attitude at work, public accountability.

Băcanu [4] states that objectives must present a number of features in order to be useful:

- Relevance
- Specificity
- Comprehensibility
- Acceptability
- Realism
- Flexibility

Porter [5] states that there are three generic strategies for businesses to obtain performance:

- Product cost management, achieving reduced costs while maintaining a level of acceptable quality;
- Differentiating creating differences are real or only perceived between its products and those of competitors;
- Concentration-focused attention on a smaller market segment or a narrower range of products.

Rahman and Ramli [6] supporting the performance of the enterprise is a variable that depends on the other two as shown in figure 1.

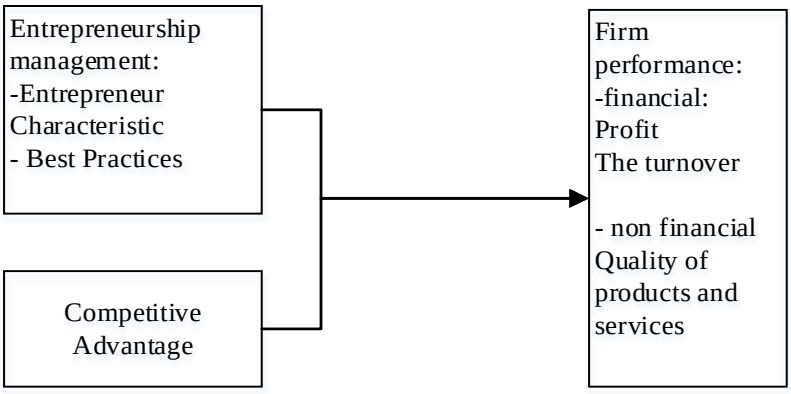

FIG. 1. Interdependence performance - management / competitive advantage [6]

According to Rylková and Bernatik [7] organization's performance is influenced by several factors: the adopted strategy, innovativeness, cooperation with other organizations to develop new products and technologies, managerial methods.

2.2 Organization Competitiveness. The competitiveness of the enterprise is its position in relation to competing companies.

Somesan [8] shows that factors influencing the competitiveness of the organization are:

• External factors: changing markets, development of competition, macroeconomic control;

• Key role of leadership, ability to obtain and use scientific and technological information, flexibility, strategic orientation to-wards the market.

Using the model of the "10 + 1" of cycle management competitiveness described by Popa H. [9] and shown in Figure 2 can be identified major directions of action in order to achieve the organization's ability to cope with competition from business in which it operates.

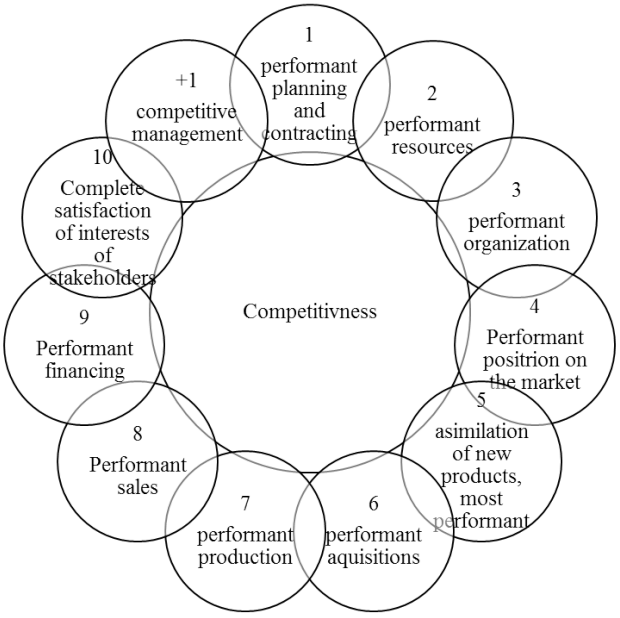

FIG. 2. „10+1" model of competitiveness cycle [9]

It is easy to see that, in order to provide some competitive advantage, the company is forced to provide resources performing to re-lease performance products both qualitatively and in price (e.g. to have a production system performance) have a competitive marketing mix.

So the factors 2, 8, 10 are external factors over which the manager can intervene in a limited way, and the factors "1", 3, 4, 5, 6, 7, 9 are key factors that may influence management organization directly.

Certainly effects of these factors are different according to geographical and socio-political conditions existing at a given time.

A particular importance is the strategy adopted by the company management. To ensure the company a stable position on the market, managers must consider sustainability and social responsibility [10].

Maylor, Turner and Murray-Webster [11] have created a model approach to operational strategy to develop the competitiveness of industrial companies. Analyzing the model shown in figure 3 shows the obvious link between competitiveness, enterprise management and functionality.

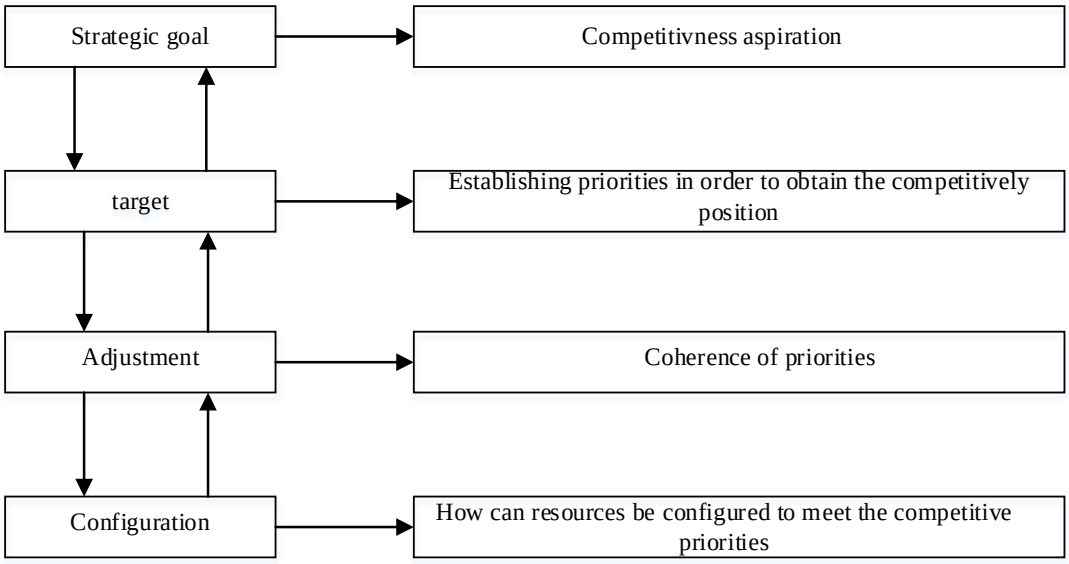

FIG. 3. Model of operational strategy approach [11]

A new model of stategy of operations is shown in figure 4.

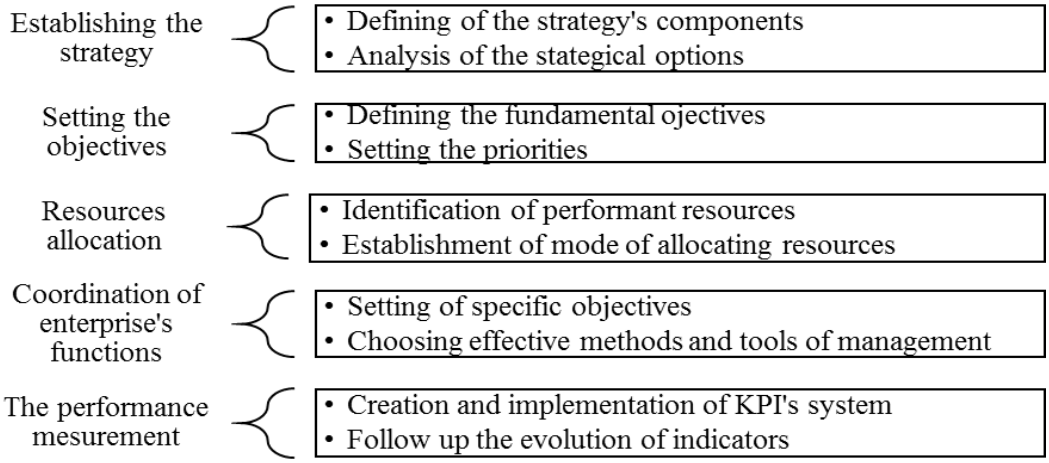

FIG. 4. Model of operational strategy approach created by authors

Obviously based on measuring the performance of remedial measures can be taken, both on short term and especially long-term, as appropriate.

2.3 The functioning of the company. When referring to the functionality of the enterprise, we must take in consideration the organization functions and interdependence between them.

Analyzing the interdependence as it is shown in figure 5, it is observed that the smooth operation of the organization depends on the quality of management, since it directly influences the activity of the whole company.

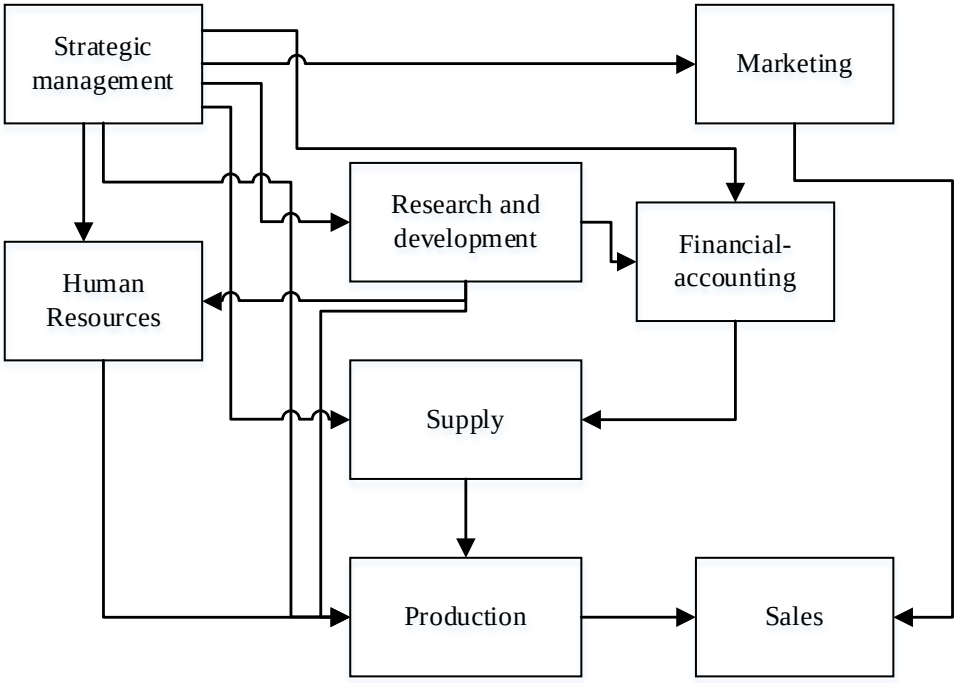

FIG. 5. Interrelation between functions of enterprise [12]

Based on management functions: foresight, organization, coordination, training, evaluation, control, and taking into consideration new trends [2,9] as shown in table 1 can be achieved a diagnosis of the production system to be analyzed.

It can be said that the extent to which an enterprise is situated closer to or further from these trends, it's development depends on the medium and long term.

Table 1. Trends in organization management [compiled by authors]

Function	Trend
Forsight	• Centering on objectives • Amplification of importance of the long-term strategy
Organizare	• Reducing of hierarchical levels
Coordination	• The team work has a growing significance • Improvement of comunication
Involvement	• Emphasizing of motivational factors • Overlappig of the company's interests with the interests of employees
Evaluation-control	• Emphasizing of preventive character of control • Increasing of flexibility and adaptability of control-evaluation methods

3. MODERN MANAGEMENT AND ENTERPRISES PERFORMANCE

The theory and practice of international management is full of methods and techniques that managers can use to obtain the best results.

This speaks more and more about established methods such as Lean, Kaizen, TQM (Total Quality Management), Six Sigma, but also the methods relatively new such as EFQM (European Foundation for Quality Management), BSC (Balanced Score Card).

In the previous paragraphs it was shown the close link between performance and competitiveness of the enterprise and its management.

But because management methodology adopted to yield the expected results it must be adapted to the realities of the moment.

In other words, there must be a diagnosis of the production system to highlight the weaknesses and strengths of the company.

3.1 Diagnosis of organization. Diagnostic analysis is one of the managerial methods common in managerial practice.

This is the main means of assessing the economic potential of an industrial enterprise. With this method are highlighted determinants for each activity management process [13].

In theory there are four models for diagnosing a company [14]:

• Open systems model;
• Diagnosis tiered hierarchical model;
• Nadler and Tushman model;
• The Weisbord model

Figure 6 presents a model that complements the others because it takes into consideration both external and internal environment of the enterprise.

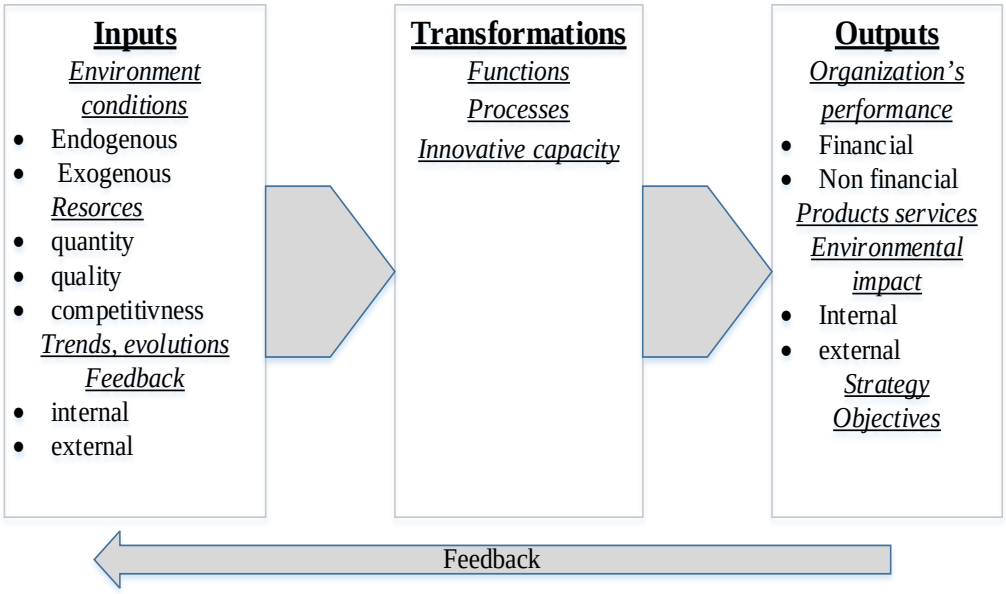

FIG. 6. Model of enterprise's diagnosis

Analysis of environmental conditions involves considering all factors: socio-political, economic, environmental, market conditions.

Analysis of the internal environment takes into account in particular the conditions under which the employees operate.

All resources (human, material, financial, informational), are analyzed through three main characteristics: quality, price, availability.

Obviously can not miss from the inputs the feedback came from both the external and the internal environment.

When analyzing the change is necessary, besides undertaking analysis functions and processes that take place within them, also the analysis of the innovation, because it can provide the company a considerable competitive advantage.

Evidently that the outputs analysis must be done reporting the obtained results with propose objectives. Also important is the feedback that management receives from both within and beyond the organization.

3.2 Designing a modern management system. Based on the results obtained after diagnosis, we have a direction in which the organization must move to fulfill its mission.

A first step in this process is to concentrate data in a SWOT matrix (see figure 7) in wich are highlighted the possible strategies:

	S	**W**
O	Strategies for use of the advantages in order to exploit opportunities	Strategies to eliminate weaknesses by using the opportunities
T	Strategies to eliminate threats leveraging the strengths	Strategies for minimizing the disadvantages to eliminate threats

FIG. 7. SWOT Matrix [10]

The goals of performance and competitiveness and the choose of the most effective management methods in achieving this objective are established based on these strategies.

If we analyze the connections between the three factors that contribute to the achievement of the objectives, as suggested in figure 8, we realize that in order to increase the performance level (degree of achievement of objectives) we need to allocate an additional amount of resources, or extension deadlines, or using more complex management tools.

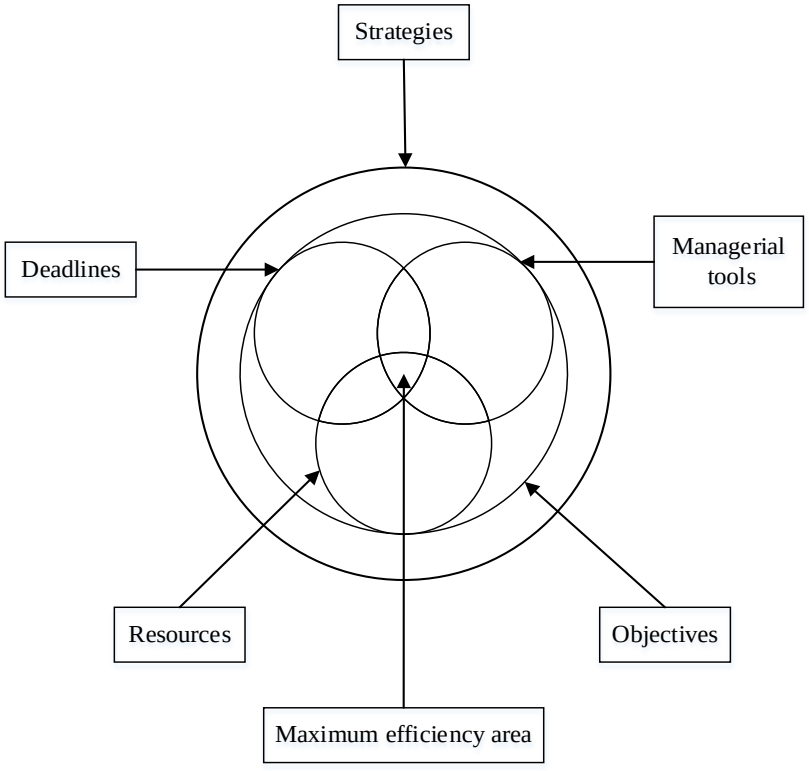

FIG. 8. Interrelation between resources, deadlines and management

Looking through competitiveness, the additional resources (who generate additional costs) or an extension of time (causing delays) are unacceptable. The only viable alternative is a modernization of the management tools.

The next step is to conduct a multi-criteria analysis which compares the methods and techniques of management rated as most effective in achieving its purpose.

The managerial methods are compared according to the following criteria:

• Applicability (A) - compares the possibility of methods that are not in conflict with other aspects of the organization

• Costs (C) - comparing the costs of implementation;

• The implementation (D) - compare the necessary durations for applying methods;

• Effectiveness (E) - compare the effectiveness of methods through the experience of other organizations;

• Radical, (R) - by comparing the degree of organizational change required to implement the chosen methods.

It further notes with hints methods (Ni) from 1 to 10 (where 1 is given to the most disadvantaged in relation criterion variants, and 10 is given to the best variant).

The share of criteria in the analysis shall be calculated with FRISCO formula:

$$\gamma_i = \frac{p + \Delta p + m + 0.5}{-\Delta p' + \frac{N_{crt}}{2}} \quad (1)$$

where:

p - sum of points obtained by the criterion;

Δp - the difference of points obtained by the criterion taken into account and the points obtained by the criterion situated in last place;

m - the number of criterions surpassed in the ranking ;

Ncrt - number of criteria considered;

Δp' - The difference between points scored by considerated criterion and points scored by criterion considered in the top position.

The scoring of criteria is done by comparing them two by two and giving one point to the most important point, zero point to the less important and 0.5 points when the criteria are equal.

The final classification of variants is determined based on the coefficient obtained as a product of Ni grade and share.

Finally, selected managerial instruments is integrated in management system with a set of performance indicators to allow assessment of the achievement of objectives.

Based on this methodology we developed an adjusting and analyzing model of enterprise management system which we have named "ARMS" (Analysis and Regulation of Management System) shown in figure 9.

The model is based on PDCA cycle and has two main components:

• The mechanism of self - management / results / diagnosis

• The adjustment mechanism - diagnostic / development strategy / management

Just as the PDCA, ARMS model is characterized by cyclicality, relying on periodic managerial analysis and carried diagnosis performed regularly.

Important to this model is that its application allows intervention "on the fly" on the management system to correct any deviations.

The model enables the adoption of techniques and leadership methods that are able to meet future developments of external environment.

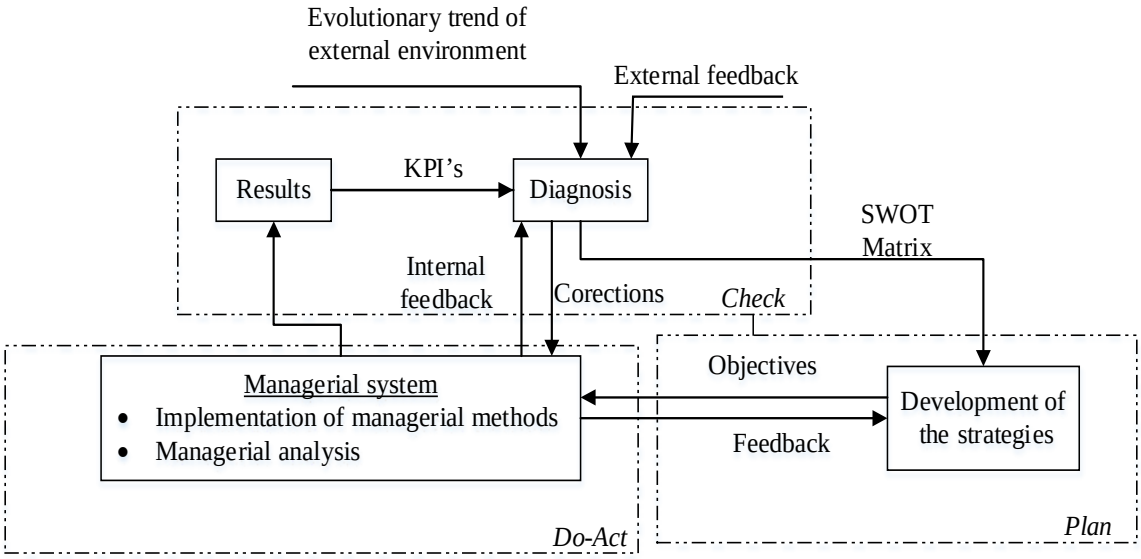

FIG. 9. A.R.M.S. model

CONCLUSIONS

This paper reveals the close connection between quality of management and its methodological subsystem and performance of an organization.

The functionality and enterprise competitiveness are the result of the synergy of endogenous and exogenous factors influence.

Enhancement of the positive factors and decrease the negative action, should be the main goal of management, regardless of the activity.

For this, managers must be able to adopt the most effective and efficient methods of production management systems, which in a dynamic business environment can be a major challenge.

What was proposed in this paper is meant to be a beginning in the creation of tools in order to help the business managers in their quest to adapt their management systems to the economic, social, political or business of the moment.

The results of practical application of the models presented will be the subject of future work.

AKNOWLEDGMENT

This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU, ID 137070.

REFERENCES

[1] Neagoe L.N., *A method for the implementation of quality costs,* RECENT magazine, vol. 13, no. 1 (34), March 2012;
[2] O. Nicolescu, Verboncu I., *Fundamentals of Corporate Management,* University Publishing House, Bucharest, 2008;
[3] P.F. Drucker, *Management: Task, Resposabilities and Practices*, Harper & Row, New York 1974;
[4] Băcanu B., *Analysis techniques in strategic management*, Polirom, Bucharest, 2007;
[5] Porter, M. E. (1990). *Flaws in PORTER's competitive diamond?*, Planning Review, September, 28-33;

[6] Rahman, NA, Ramli, A., *Entrepreneurship Management, Competitive Advantage and Firm Performances in the Craft Industry: Concepts and Framework*, Procedia - Social and Behavioral Sciences, 145 (2014) 129-137 ICGSM;
[7] Rylková, Ž., Bernatík, W ., *Performance Measurement and Management in the Czech Enterprises*, Procedia - Social and Behavioral Sciences 110 (2014) 961-968;
[8] Someşan C., Competitive Strategy of Enterprise, Promoting entrepreneurial culture and entrepreneurship training in business, Salaj County, project POSDRU 2013;
[9] Popa H.L., *Management and Manufacturing Systems Engineering. Evaluation Methods of Analysis, Design and Decision* , Publishing House Politehnica Timisoara, 2001;
[10] Corbett, L., *Sustainable Operations Management: A typological approach*, Journal of Industrial Engineering and Management, Vol.2 (1), p10-30 2009;
[11] Maylor, H., Turner, N. Murray-Webster, R ., *It worked for manufacturing ... "Operations strategy in project-based operations*, International Journal of Project Management 33 (2015) 103-115;
[12] Cozmâncă M., Petru G.L., et.a., *SME Management*, Technical Publishing-Info Chisinau, 2002;
[13] Boian, N., Mărăscu-Klein, V., Abrudan, I., Calefariu, G ., *The diagnostic analysis of SMEs*, University "Transylvania", Brasov, 2011;
[14] Burduş E., G. Căprărescu, Androniceanu A., *Organizational Change Management*, Economic Publishing House, Bucharest, 2008;