

Selection of Criteria for the Realization of the Value Approach in Anti-Crisis Management of the Company

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Abstract: *In nowadays conditions, the value of business has established itself as a main criterion for assessing the effectiveness of any business, and hence as a tool to enhance its anti-crisis resistance. This outcome indicator contains in itself concentrates interests of all stakeholders in the development of the enterprise. Management decisions based on value; aim at creating an increasing value for shareholders and maintaining the competitive advantages of the company. This publication shows a model of value management by means of detecting factors affecting the wealth of shareholders, and in particular the operational management of key performance indicators. An approach is proposed to decompose the center of the value to key performance indicators (KPI – Key performance indicator) in order to monitor the cause – effect relationship between KPI and the final indicator of the effectiveness of the business. Herein studied is the links between indicators.*

Keywords: *management, value, Key performance indicator, EVA.*

1. INTRODUCTION

Value management (Value Based Management – VBM) is a management concept aimed at reaching the strategic goals of the enterprise by concentrating the efforts of all divisions on **key factors of value**.

From the positions of the theory of valuation, value is not a fact, but a vision (economic concept) for the value of the company, formed on the basis of available information and using appropriate tools. [1]

In nowadays conditions, the value of business has established itself as a main criterion for assessing the effectiveness of any business, and hence as a **tool to enhance its anti-crisis resistance**. This outcome indicator contains in itself concentrates interests of all stakeholders in the development of the enterprise. Through the value, investors evaluate alternative investments; lenders evaluate loan collaterals, and managers – the profitability of their companies.

2. THE VALUATION AS A PROCESS

Managerial decisions based on value aim at creating an increasing value for shareholders and maintaining the competitive advantages of a company.

Valuation as a process is quite complex, as it changes over time, influenced by factors, many of which defy quantification. Valuation varies for individual market participants depending on the purpose of its drawing up. Despite the difficulties in its determining, more and more enterprises put at the heart of their strategy and tactics the business value management.

A summarized model of the management cycle of value is shown in Figure 1. [2]

Value plays its role as a criterion for the efficiency of management through indicators (performance metrics), which answers the question of whether a company value is "added" or "destroyed" during a relevant period. The indicators provide a link between strategic and operational management decisions in a company, suggesting payment for use not only of borrowed capital, but also of equity, report the state of market uncertainty and information asymmetry and related risks, account for the time distance between investments and the resulting return on invested capital.

An enterprise value derived through certain methods of evaluation, as well as the analysis of its dynamics and the factors of value are key to timely or even time outstripping prediction of a corporate crisis ever since the first signs of its. The loss of resistance makes an enterprise more susceptible to

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internal and external negative influences and its exact diagnosis is a prerequisite for measures which are timely, correct and adequate for the situation by the management of that enterprise. At this, those measures can be at a strategic or operational level, can affect the entire enterprise or only part of its activities. However, one cannot take the right decision, if it is not based on an accurate and realistic assessment.

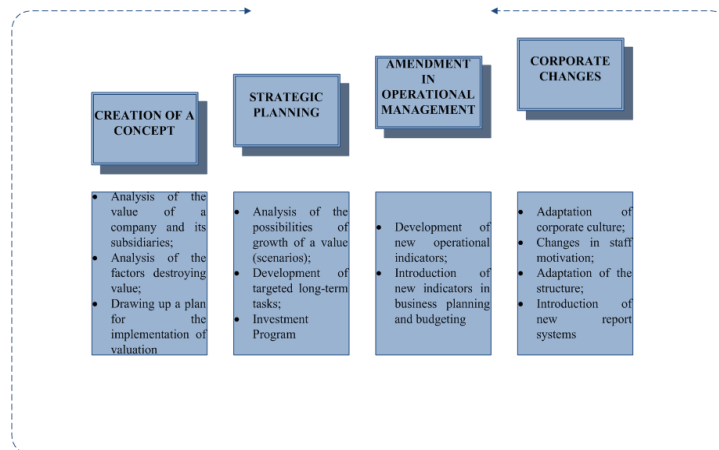


Fig1. Value management cycle

The aim of any diagnosis is to obtain reliable information on whose basis one can take managerial decisions and implement events adequate for the situation (the respective economic situation). Through diagnosis of each entity is determined the condition of the unit through realization of complex research procedures. Thanks to these studies one can find the weaknesses in an enterprise, and discover trends towards growth or decline.

In the selection of criteria for the realization of the value approach, one should consider the principles a future operating model would refer to, based on the value, to be effective and appropriate [3]:

- Principle of constant readiness. This principle implies constant readiness both of the management staff and the entire system, for possible disturbance of sustainability;
- Principle of continuous monitoring. This principle stems from the uncertainty in the development of economic relations and the economy as a whole. Permanent monitoring of the state of an enterprise and the early diagnosis of deviations from stability is a prerequisite for minimizing the negative consequences;
- Principle of differentiation of crisis phenomena. The principle implies grading problem situations as per the level of danger;
- The principle of timeliness concerns the timely response of the management staff, which would allow on one hand to liquidate the consequences at an early stage, and on the other hand — to preserve resources;
- The principle of adequacy is expressed in the correct correspondence between the depth of the problem and the package of measures for its elimination;
- The principle of priority implies the full realization of internal and external possibilities for stabilization at a priority of internal methods over external ones.

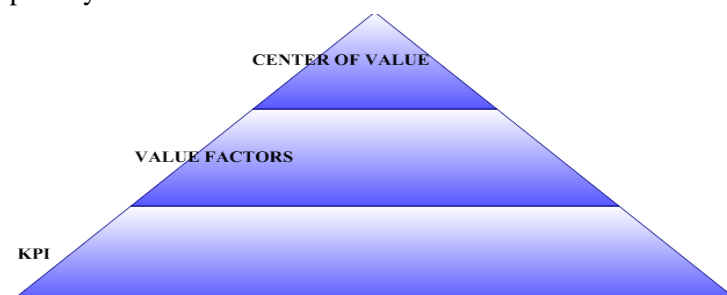


Fig2. Pyramid of the process of value creation

Value creation in a company can be viewed as a specific pyramid (Fig. 2), on top of which is the center of the value, responsible for the creation of economic added value in a company through finding of the factors affecting the wealth of shareholders, and in particular the operational management of the key performance indicators. [4]

The top of the pyramid appears as a measure of the value of a company, as this study suggests it to be the model the **Economic value added (Economic Value Added, EVA)**.

The model evaluates the outcome of the business based on economic profit, which is a function of investments, risk and cash flow. From here stems the dependence of the fundamental value of the capital on four factors [5]:

- amount of capital invested at the time of evaluation (IC);
- actual earnings/return on invested capital (ROIC);
- required rate of return that is most often measured by the weighted average cost of capital (WACC);
- resistance to the spread between these two yields.

Mathematically, EVA is calculated on an annual basis as follows:

$$EVA = NOPAT - WACC * I_c \tag{1}$$

$$EVA = (ROIC - WACC) * I_c \tag{2}$$

Both formulas characterize the effectiveness of business, but from different perspectives:

- of equity positions as a function - Formula 1
- of equity positions as property - Formula 2

A featuring moment in the model of EVA are the corrections made in the invested capital (I_c) and in the net operating profit after taxes (NOPAT), known under the name capital equivalents. This term marks the resources that are in fact part of the capital, but not recognized as assets because of strict accounting rules. These assets, often called "invisible capital", are the condition for the success of an enterprise, thus providing it a competitive advantage. The company is considered as a set of competitive advantages created by tangible and intangible assets. Reported is the so called "Invisible wealth" (Weightless Wealth), which is formed by assets such as brand, competence and knowledge, network of relationships, production habits, corporate culture, technology and innovation, skilful management.

Where:

- **EVA > 0** – capital is used efficiently, the enterprise has achieved returns exceeding the profitability demanded by investors and value is added to investment.
- **EVA = 0** – the results of the business cover the operating expenditures, investors receive returns offsetting their risk, measured by the cost of capital, but value added is not created in the enterprise.
- **EVA < 0** – inefficient use of capital and reduction of the enterprise value. The enterprise realizes the economic loss, i.e. does not create a value added, the risk of investors is not compensated and they suffer loss, as capital revenue required by them is not provided.

The summarized EVA model is illustrated in Figure 3:

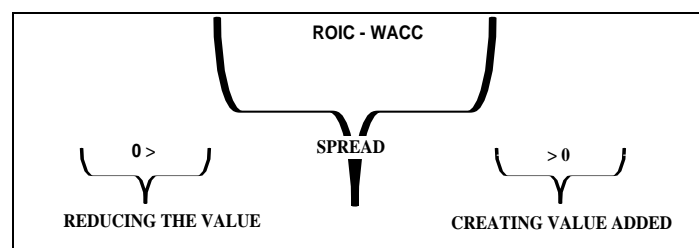


Fig3. Summarized EVA model

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The period which ensures a positive spread between actual and required capital revenue is defined as a **competitive advantage period**. It is during this period that a fundamental value is created which in the long run determines the market value of equity.

3. VALUE FACTORS

The second level of the pyramid is associated with factors of value that can be divided into three main groups:

- *Effectiveness of operating activities* – reflects the results of the core business of the company in connection with the increase of sales volume, reduction of the operating costs and increase in the productivity. Improving the meanings of each of these indicators can be realized in practice without the implementation of additional investments.
- *Effectiveness of investment activity of the company* – measures the performance implemented by investment projects and various business combinations and projects implemented by the company. Here are taken into account investments in real assets with a term longer than one year.
- *Effectiveness of financial activity* – covers these factors of the value that measure the effectiveness of using different sources for business financing, exchange of free cash in the stock market and management of the working capital of the company.

Value factors of first and second level are illustrated in Figure 4.

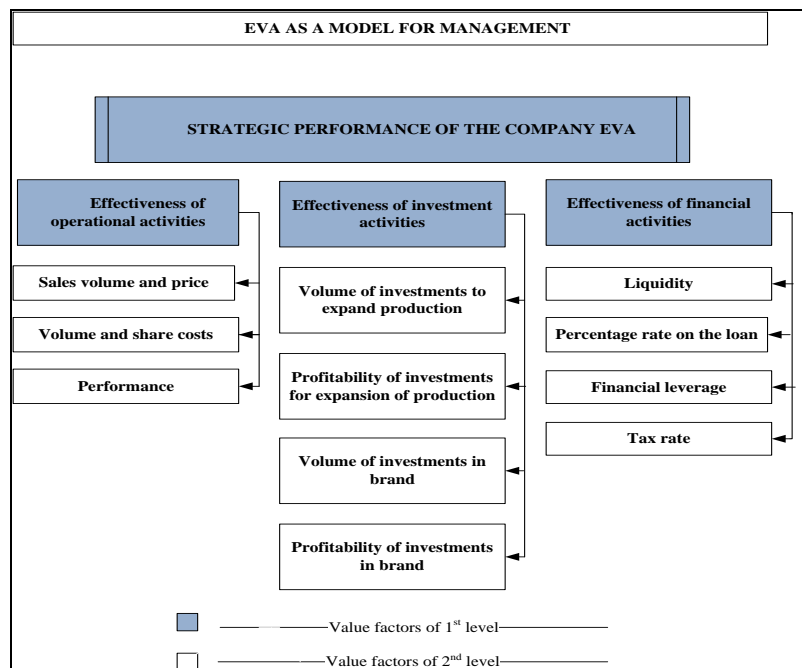


Fig4. Value factors

4. KEY PERFORMANCE INDICATORS

The third level in the pyramid (its base) is represented by key performance indicators. The selection and designation of KPI is not an easy task, whose implementation has to find an answer to a range of major issues concerning company activities, such as: How to distinguish KPI from "just" ordinary indicators? How to determine that the selected metrics are key business indicators? How to prove that selected metrics lead to rather complete than partial optimization? How to balance short term and long term goals? Are there data to support the metrics? Choosing the wrong KPI can result in inappropriate behaviour and unoptimized goals. It should be borne in mind that although all KPI are metrics, not all indicators are KPI [6].

The transformation of the organizational vision into KPI and hence into plans for key actions requires several intermediate steps - creating strategies, objectives and critical success factors. It is not enough to only define objectives and select the relevant KPI. The vision for the future (the mission) should be supported by the strategy (how), goals (what), critical success factors (focus areas), KPI (metrics) and

key action plans in order to realize full system operation. Tracking of management actions on realization of the main corporate goal requires to identify the factors with the highest and, respectively, lowest contribution and to identify levers for operational intervention. [7]

For example, in a "**leadership in costs**" strategy one should keep a constant control on costs at every stage of the value chain. This information comes from the so-called strategic costs analysis. It helps tracking the costs of the entire chain of activities ranging from the supply of raw materials and ending with the price paid by customer. The analysis itself requires grouping costs in three areas — area of suppliers, area of own operations and area from the boundaries of the organization to the end user.

As specific indicators in the "**differentiation**" strategy one can indicate the sales volume by new products, production quality, profitability of sales, number of complaints and the proportion of rejection.

Companies opting the "**concentration (customer proximity)**" strategy are oriented to increase of sales volume by patrons, the index of satisfaction, speed of implementation of special orders, interchange ability of staff etc. [8,9]

Next time in selecting and defining KPI management value required to look at another way of classifying companies. In this new perspective the attractiveness of companies is seen in another way, as it changes the criterion for their success. Emerging classifications of companies and their structural divisions can be summarized in the form of a matrix in which they are divided into five categories (Figure 5) [2].

Next moment in selecting and defining of KPI for value management requires to look in another light to the classification of companies. In this new perspective the attractiveness of companies is seen in another light, as it changes the criterion for their success. Emerging of new classifications of companies and their structural divisions can be summarized in the form of a matrix in which they are divided into five categories (Figure 5) [2].

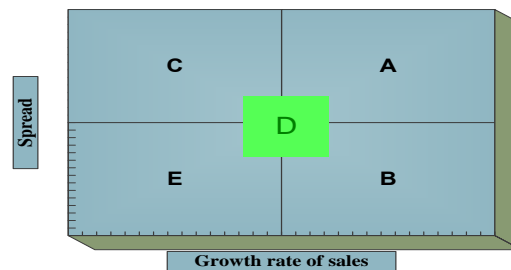


Fig5. Matrix of attractiveness of companies (divisions)

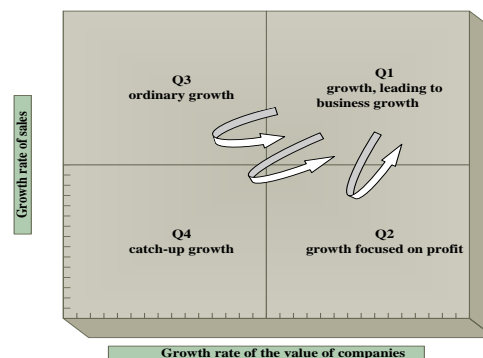


Fig6. Growth quality matrix

In the construction of the matrix, two axes are used: *one* is simple – as an indicator of the average growth rate of sales (calculated as the geometric mean value for a certain period), and the *second* – complex, as a metric of economic gain (for example in the form of a spread). In cell "A" there are the "new stars", or these are companies with high intrinsic growth rate of sales revenue and high economic gains. The opposite cell "E" is accommodated by the "new dogs" or the unattractive companies in which both parameters are lower than average in the sample. Here the question arises why in the presence of four zones in the matrix; one can speak of five types of companies. The answer

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is related to the fact that there is a group of companies (D) at the intersection of the matrix axes, which may present average rates of growth, and where the economic gain (spread) is unstable. But this is only a preliminary and incomplete analysis. The key to answering this question lies in the *growth quality* issue (Figure 6).

In the perspective of the value approach there arises a new vision for the growth of a company, which can be designated as "multidimensional growth." The logical picture of the growth quality in statics reports that owners of the company need growth, which corresponds to changes in cell Q1 (fig. 6). At first glance, only a step down are the companies in cell Q2, which have inherent growth focused on profit growth, where the pace of sales growth is lower than the average in the sample. Companies in cell Q3, on the contrary, have inherent growth focused on aggressive sales policy, which in terms of the value approach looks like an ordinary growth. Companies in cell Q4 - "new cheaters" cannot have success in any of the dimensions of growth.

If we take into account the picture in dynamics, then the conclusion is that growth cannot be monotonous or linear. Observed over a sufficiently long period of time for a particular sample, it is zigzag shaped and practically all companies are rearranged /agitated/ in another type of growth. For example, according to the study of ATK earney, if attention is only focused on companies that migrate from cell Q1, then the facts are that the return from Q2 to Q1 needs more than three years and twice more to return to Q1 from Q3 and even from Q4 [McGrath et al., 2001]. Such a situation is tantamount to falling into the a trap. The "Profit Trap" in which they fall, moving in Q2, creates a significant complexity, if not barriers to exit and move to the most attractive group, since to reach a growth focused precisely on accounting profit requires reduction of costs and disruption of investment programs, i. e. narrowing of the basis for future sales growth.

This gives grounds to draw the following conclusion: the special "fifth element" - this is a type of companies (fig. 5 companies B) which are to go out at a high speed to sales growth in the presence of a negative economic profit (spread) and to maintain it. The sustainability of this rate creates a kind of springboard to twitch to the direction of profitability growth and output to a trajectory of economic gain growth. Therefore, the specific detail of the classification shown in the matrix in Fig. 5 is concluded in the fact that a potential candidate for falling in the group of the most attractive companies appears that of type B namely.

Exploring the relationship between selected criteria and key performance indicators

This paper proposes an approach to decompose EVA to key performance indicators (KPI) in order to monitor the cause – effect relationship between KPI and the final metrics of the effectiveness of the business. KPI decomposition on the organizational structure ensures that the activity at each level of the company is carried out in a direction determined by the management and aims at increasing the value of the organization.

In this case there arise several questions that must be answered: [10]

- How to choose those of them that meet the specificity of the organization and will most accurately characterize the achievement of objectives?
- How correctly to consolidate and aggregate measuring units within the strategy?
- What should be the system of measuring and evaluation of the level achieved in the implementation of the strategic goal?

In many cases of realization of management after KPI one uses too many indicators, as this prevents contractors to understand their significance for the final results and comply with them in their work. For some objectives there may be too many indicators, which impedes their monitoring. There should not be too many indicators, so as to avoid losing focus or to blur responsibility. There also should not be too few of them, which will create difficulties in measuring and taking effective action to address an issue. In this case it is advisable to ensure only two or three basic. They are namely those called key performance indicators to help determine the progress to set goals.

Establish dependency of relationships among indicators

The authors propose a conceptual model of staging the task for selecting KRI whose regular monitoring determines the progress towards achieving set goals. The model relies on the detection of

dependency of the links among indicators. The authors accept the assumption that indicators which are interdependent appear crucial, the dependent ones must be subject to a further analysis, according to the model of development and the sensitivity of the multi-criteria method AHP, and independent ones – will be accepted as non-essential in the performance analysis. The adoption of these assumptions is argued by studying of the provided information needed to compile the values of each indicator.

As a useful tool for identifying the independent, dependent and interdependent information flows inherent to complex tasks, one will use a draft structure matrix DSM, proposed by Steward, as well as a decomposition algorithm of DSM [11, 12, 13].

5. CONCLUSION

The procedure for solving a task can be summarized as follows:

- Decomposition of the strategic goal/goals of the company into separate sub-goals in a hierarchical structure;
- The goals should be analyzed to determine the factors that will contribute to their achievement, accepted as critical success factors;
- For each critical success factor there must have at least one key performance indicator.
- Key indicators will perform a quantitative measurement of the progress towards a pre-set goal.

Mechanism of Action

- Establishing of a multidisciplinary group of experts and through their scientifically sound judgment forming a reasoned functional solution;
- Comparing all the criteria possible for solving a given problem by the degree of dependence among them for selecting the best model in achieving the desired objective;
- Determination of the system and the field;
- Indication of all system elements (indicators);
- Examination of information flows among the indicators of the system;
- Construction of the matrix in a form that must show the information flows and is easy to apply;
- Rearranging of the matrix using the algorithm for separating into portions;
- Identification of independent, dependent and interdependent blocks;
- Providing a built matrix to managers for analysis.

Ensuring that selected key performance indicators are strategic, relevant and quantifiable, improves the likelihood that they encourage the realism, objectivity and transparency in performance management.

REFERENCES

- [1] John D. Martin, J. William Petty Harvard [Value Based Management: The Corporate Response to the Shareholder Revolution Business School Press, 2000
- [2] Ivashovskaya I.V., Upravlenie stoimostyu kompanii: Vyizovyi rossiyskomu menedgmentu, Rosiyskiy ghurnal menedgmenta №4, 2004, pp.113-132
- [3] Sutyagin V., Shepelev O., Realizacia mehanizma finansovogo ozdorovleniya, osnovannoga na teorii upravleniya stoimostyu biznesa, Socialno-economicheskie yavleniya i processyi, №3-4, (025-026), 2011
- [4] S. Young, Stephen O'Byrne [EVA and Value-Based Management: A Practical Guide to Implementation: A Practical Guide to Implementation McGraw Hill Professional, 13.12.2000
- [5] Stern Stewar the Quest for Value: A Guide for Senior Managers. Harper Business: N.Y., 1999
- [6] Bauer, K., KPIs- The Metric That Drive Performance Management, DM Review, September 2004

- [7] Advanced Performance Institute, <http://www.ap-institute.com>
- [8] Eckerson, W., Ten Characteristics of a Good KPI, The Data Warehousing Institute™, <http://www.tdwi.org/publications/display.aspx?ID=7114>
- [9] Tolkach, V., KPI v upravlenii: svyaz' so strategiyey, Novyy menedzhment, №5, 2007, http://cfin.ru/management/controlling/kpi_and_strategy.shtml
- [10] Marr B, How to Design Key Performance Indicators, API White Paper, 2010 <http://www.ap-institute.com/white-papers.aspx>.
- [11] Steward, D.V. The Design Structure System: A Method for Managing the Design of Complex Systems. IEEE Transactions;
- [12] Panayotova T., Modelirane na organizatsionnite vrazki pri razrabotvane na slozhni proektni zadachi v usloviyata na konkurenten inzhenering, Disertatsiya, Varna, 2005
- [13] Damyanov, D., T. Panayotova. Organizatsiya na Konkurentniya inzhenering v industrialnite firmi. Uchebnik. ISBN-954-20-0369-4. Pечатna baza pri TU-Varna, 2007.

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