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G.S. Merzlikina, E.V. Slashchev**METHODOLOGICAL ASPECTS OF THE INDUSTRIAL ENTERPRISES
STRATEGIC DEVELOPMENT MANAGEMENT EFFECTIVENESS****Г.С. Мерзликина, Е.В. Слащев****МЕТОДИЧЕСКИЕ АСПЕКТЫ ОЦЕНКИ ЭФФЕКТИВНОСТИ
УПРАВЛЕНИЯ СТРАТЕГИЧЕСКИМ РАЗВИТИЕМ
ПРОМЫШЛЕННОГО ПРЕДПРИЯТИЯ**

Proposed method for evaluating the effectiveness of strategic management, based on a synthesis of qualitative and quantitative characteristics of the enterprise activity, allows you to fully determine the level of effectiveness of management of strategic development. The main results include the transition from the common qualitative (linguistic) characteristics in the evaluation of this type of management to quantitative, to lighten the immediate assessment process and not high complexity of the analysis of results. The developed system of indicators has been tested in several local enterprises from Volgograd region in Russian Federation and has shown it's effectiveness. In addition, we propose a general mechanism for action for increasing the indicator of the industrial enterprises strategic development management effectiveness.

VALUATION; EFFICIENCY; STRATEGIC MANAGEMENT; INDUSTRIAL ENTERPRISE; QUANTITATIVE INDICATORS; QUALITY INDICATORS; «TREE OF THE INDICATORS»; «BRANCH OF THE TREE OF THE INDICATORS»; INSTRUMENTS AND MECHANISM OF MANAGEMENT

Предложена методика оценки эффективности стратегического управления, основанная на синтезе качественных количественных характеристик деятельности предприятия, позволяющая в полной мере определить уровень эффективности управления стратегическим развитием. К основным результатам можно отнести переход от широко распространенных качественных (лингвистических) характеристик в оценке данного вида управления к количественным, простоту непосредственного процесса проведения оценки и невысокую сложность анализа полученных результатов. Разработанная система показателей апробирована на нескольких предприятиях региона и показала свою действенность. Предложен общий механизм действий предприятий по улучшению показателя эффективности управления стратегическим развитием.

ОЦЕНКА; ЭФФЕКТИВНОСТЬ; СТРАТЕГИЧЕСКОЕ УПРАВЛЕНИЕ; ПРОМЫШЛЕННОЕ ПРЕДПРИЯТИЕ; КОЛИЧЕСТВЕННЫЕ ПОКАЗАТЕЛИ; КАЧЕСТВЕННЫЕ ПОКАЗАТЕЛИ; «ДЕРЕВО ПОКАЗАТЕЛЕЙ»; «ВЕТВЬ ДЕРЕВА ПОКАЗАТЕЛЕЙ»; ИНСТРУМЕНТЫ И МЕХАНИЗМ УПРАВЛЕНИЯ.

Business activities in different spheres in the current market context involve finding and developing peculiar approach and strategies. For confident development a company should have such a ratio between costs and results of production which would allow it to be profitable in the long term; to seek new forms of capital investment, markets for their goods, works or services (GWS); to modify and improve its products to meet the requirements of the market; to find more effective ways to communicate with existing and potential customers; to implement reasonable trade policy; to apply fundamentally new methods of management.

It should be noted that by the term «strategic management development», many scholars such

as D. Norton [5] R. Kaplan [5] M. Hazan [1] R. Chase [8], N. Ekviline [8], I. Ansoff [4], C. McConnell [6], S. Brue [6] P. Samuelsen [7], mean, in the first place, such kind of a company management which contributes to the company's strategic objectives, rather than the more common synonym of this term, defining it from the standpoint of urgency and symbolising long-term goals of the company. Besides, there are many definitions of the term «efficiency». One of them determines 'effectiveness' of the relative effect, of the productivity of the process, operation of the project, defined as the ratio of the effect, the result, to the costs, expenses, contributing, ensuring, its acquisition. Another definition states that production efficiency is the market value of

the manufactured goods divided by the total costs of the company assets. It is difficult to evaluate the effectiveness of management, because there is no single view at the term of «efficiency» yet, however the effectiveness of management can be defined also as achievement of the best possible result using the control system with a given level of the operation costs to achieve the desired result, or reaching the required result with the lowest possible expenses on management; the means by which the system of the facility management ensures the efficiency of the object managed, the effectiveness of the enterprise strategic development management being understood as such kind of management that contributes to the achievement of its strategic objectives at the lowest costs.

At the moment there is an uncertain situation about the criteria for evaluation of the industrial enterprises strategic development management effectiveness as a whole. Vagueness, ambiguity, lack of the concrete criteria of management effectiveness and the relevant indicators hampers the assessment of the real level of management. In its turn, this does not allow to determine the necessary specific effective management actions, at the same time effective management being impossible without the evaluation of the resulting effect, which makes the postulate of classical management. Thus, the study of criteria and indicators of strategic development of industrial enterprises actualizes this scientific research and determines the following tasks:

- to develop a methodology of evaluation of the strategic development management effectiveness at industrial enterprises;
- to test the developed methodology of evaluation of the strategic development management effectiveness at industrial enterprises;
- to identify ways of improving the strategic development management at industrial enterprises on the basis of tested results of the strategic development management effectiveness at industrial enterprises.

The industrial enterprise in the modern market economy is a part of a socio-economic system, functioning of which is due to the interaction of controversial factors of the external and internal environment, which, in turn, requires from the enterprise management

to apply the adequate methods for monitoring their condition, evaluation and taking into account while making decisions that will ensure the company homeostasis, competitiveness and operational effect.

In business management the complex of human, information, material, financial and other resources through their optimization should provide the balanced external and internal environment of the company. In this case, the parameters of the environment include the volume and intensity of demand, consumer preferences, competitive threats, the level of technological development, government regulation, potential risks – all of which makes up the starting point for the analysis in the system of strategic decisions that determine the requirements for the internal resources of the organization, its objectives, organizational structure, communication system, etc.

The strategic approach to the evaluation of industrial enterprises management effectiveness allows to provide the quantitative assessment of the qualitative components, using the qualimetric methods of company analysis, which are based on various expert evaluation methods [3]. Given considerable uncertainties of the dynamic environment, no traditional formal methods (factor analysis, a method of deviations, standard, etc.) afford an opportunity to make management decisions that ensure the effective functioning of the enterprise in the future. Thus, the necessary condition to identify and improve the use of resources of the enterprise is the introduction of an effective management system which can adapt to changing external and internal environment, embracing the entrepreneurial and organizational activities of the economic entity within their market behavior [3].

The industrial enterprise management is the management of the enterprise internal factors in total (the human resources, socio-economic and organizational factors), as well as their level of application and internalization, which, in turn, allows to optimize the cost and quality of the produced goods, operations or services, that is why process of management is impossible without the presence of a certain closed steady or developing system, within which the functions of management are realized. Moreover, in

contrast to the extensive development, characterized by the quantitative growth of the means of production and material resources on the previous technical basis, the intensive variant implies the inherent qualitative changes in the factors of production and transfer of the extended reproduction to the new technical foundation.

The industrial enterprise strategic development management is based on the following principles:

- The need to determine the ratio of the number of the goals achieved to their total number;
- The need to determine the ratio of «the performance «to «the costs» (or «exits» to «inputs» in terms of the systems theory);
- The need for compliance to the standard, which is known, among other names, as «benchmark».
- The need to ensure a certain satisfaction level of the participants with the process

Based on the stated above principles of the industrial enterprise strategic management, we have proposed the methodology of evaluation of the industrial enterprise strategic development management effectiveness which according to our reckoning should include a synthetic set of hierarchically grouped qualitative and quantitative indicators.

In accordance with the methodology of evaluation of the industrial enterprise strategic development management effectiveness (EIESDME) is carried out in several stages.

The first stage of evaluation is collecting the quantitative information about the object of analysis. The information is mainly obtained from various forms of the accounting (statistical) reports, records of planning and economic departments of enterprises, statutory, regulatory and other documents and is characterised by the quantitative data. Typically a complete package of information is the publicly available financial statement.

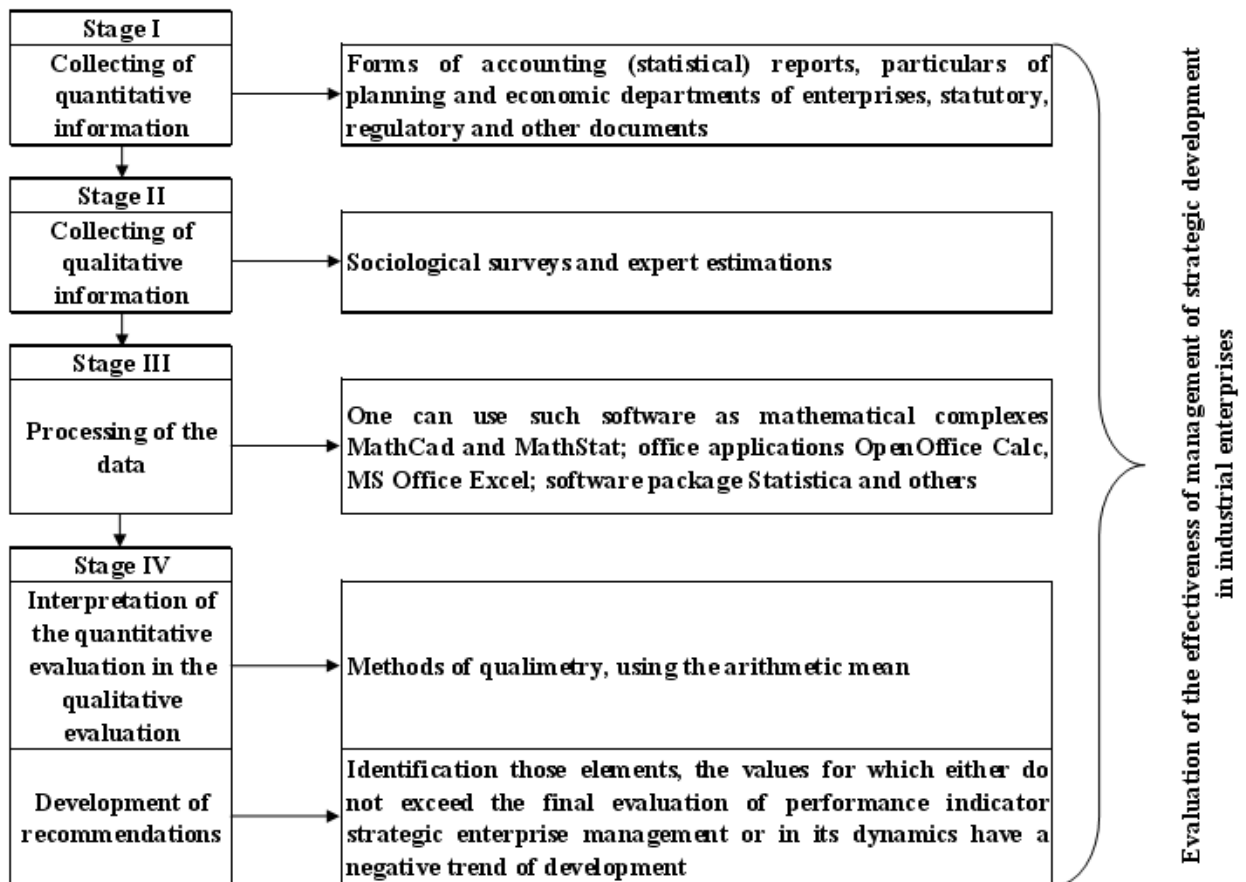


Fig. 1. The methodology of evaluation of the industrial enterprise strategic development management effectiveness

The second stage is characterized by the collection of qualitative information about the object of evaluation. This kind of information mainly contains surveys and expert evaluations of the enterprise employees, whose opinions and experience of work in the industry allow to draw conclusions about their high level of expertise and knowledge as a whole. They can be managers and / or their deputies, heads of relevant economic services and departments, chief accountants and, in special cases, production line supervisors. The hands-on collection process of the necessary information for evaluation is done in the form of interviews / questionnaires according to specified conditions and within the quantitative interpretation of linguistic assessments by the scale of Harrington, the method which can be seen at Tab. 1 [2].

Table 1

Qualitative characteristics of evaluation of the features of the strategic enterprise resources quality structure by Harrington

Gradation of evaluation of feature	Qualitative characteristic of evaluation features
1.0	Maximum level
1.00–0.80	An excellent and reasonable level that exceeds the optimal commercial level
0.80–0.63	A good and acceptable level which is providing the optimal commercial level
0.63–0.40	Not good, but still an acceptable level (to ensure the competitiveness of the enterprise should be raised)
0.40–0.30	Bordering on an unacceptable level
0.30–0.10	An unacceptable level (prevents ensure the competitiveness of the enterprise)
0.00	A totally unacceptable level

At the third stage, estimating requires processing of the received data and the subsequent entry into the PC. To process the information we can use such software as mathematical complexes MathCad and MathStat; office applications OpenOffice Calc, MS Office Excel; software package Statistica and others [3].

At the final stage, after the receipt of the corresponding values of the complex evaluation of the industrial enterprise strategic development management effectiveness through the above three stages, follows the interpretation from the quantity evaluation to the quality one and recommendations are developed for each object of analysis. Calculations of complex indicators in qualimetry require using various kinds of mediums: harmonic average, geometric average, quadratic average, arithmetical average. The most widespread comprehensive evaluation of quality is based on the arithmetical average and geometric average. The main feature of the geometric average – it becomes zero if the evaluation of one of the properties is equal to zero. However, in our opinion, the use of the geometric average in the calculation of the complex index evaluation of the industrial enterprise strategic development management effectiveness is irrational, because at zero value of any component of analyzed indicator the composite index becomes zero.

Highly important in the development of the evaluation system is to determine the weight of individual components of the integral index EIESDME. In most cases, the indicator components are not equal as to their weight. However, in our opinion, all the elements of the developed complex EIESDME should be considered identical in weight, because, from the standpoint of qualimetry the properties of one level in the hierarchy in the evaluation of the test objects are equal and, therefore, the weight cannot be included in the final formula.

It should be noted that when of evaluating of the industrial enterprise strategic development management effectiveness in dynamics within the time range one should be guided by the generally accepted rule of this kind of questionnaire to avoid large fluctuations in the evaluation of complex indicators between the periods of these evaluations.

The initial level of performance evaluation of the industrial enterprise strategic development management effectiveness consists of a series of hierarchically ordered sub-indicators, which, in turn, are divided into the indicators of a lower order [3].

Schematically, the structure of the performance indicator of strategic enterprise management is presented in Fig. 2.

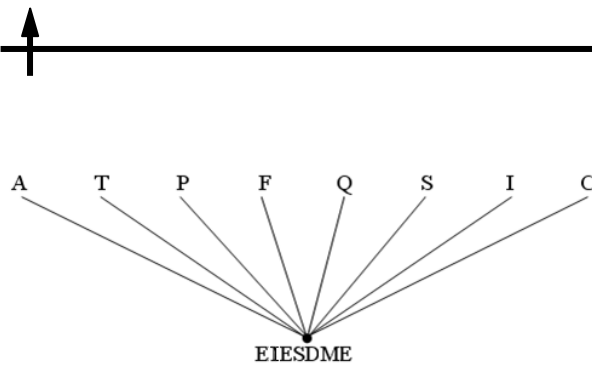


Fig. 2. Evaluation indicator of the effectiveness of management of strategic development at industrial enterprises

Proposed integrated indicator of the industrial enterprise strategic development management effectiveness is based on the estimates contained in [2, 3], and the Harrington's scale of the qualitative characteristics of evaluation properties of the structure as a strategic enterprise resource.

The first set of indicators of EIESDME is:

A – Indicator of commodity assortment management;

T – Indicator of transaction management costs;

P – Indicator of pricing management;

F – Indicator of the foreign economic activity;

Q – Indicator of quality management;

S – Indicator of staff management;

I – Indicator of investment management;

C – Indicator of cost management.

In their turn, the considered indicators are divided into several levels of a lower order forming a hierarchical structure of components of the complex industrial enterprises strategic development management evaluation. It includes:

A – Indicator of commodity management assortment is divided into: Indicator of consumer satisfaction; indicator of market capturing; indicator of marketing.

T – Indicator of transaction costs management consists of: indicator of legal support of transactions; indicator of generated order of market relations and indicator of potential partners aspiration for cooperation.

P – Indicator of pricing management includes: indicator of the pricing policy compliance to the type of the market; indicator of matching the pricing to the product life cycle (PLC); compliance indicator of the pricing policy to the general objectives of an organizational system and acceptance indicator of pricing for consumers.

F – Indicator of the foreign economic activity comprises: indicator of monitoring

national economy rate; indicator of international marketing and indicator of opportunities of growth of foreign economic activity.

Q – Indicator of quality management is divided into: indicator of quality management system and indicator of opportunities to improve the quality system.

S – Indicator of Staff Management comprises the following: the indicator of the staff structure compliance to the needs of an organizational system and indicator of formation of stable staff interest in results of operation of an organizational system.

I – Indicator of investment management is comprised of the index of investing into company's own activities and the index of foreign investments of the organizational system.

C – Indicator of cost management includes: orientation indicator of an organizational system for the rationing of costs and indicator of strategic cost analysis.

Subsequently, these indicators are also divided into still lower ones, according to the hierarchical structure of the methodology of the industrial enterprises strategic development management effectiveness, which have mainly quantitative characteristics.

Approbation of the proposed methodology of evaluation of the industrial enterprise strategic development management effectiveness was carried out by three companies engaged in the production of various products of one of the regions of the Russian Federation – Volgograd region. In accordance with the method of analysis and evaluation of the industrial enterprise strategic development management effectiveness we have identified the strengths and weaknesses in the economy and also made recommendations about the choice of destinations for using the reserves to improve the strategic management quality.

To determine the value of the indicator evaluating the industrial enterprise strategic development management effectiveness all the obtained components were summarized in Tab. 2.

Analysis of the indicators included in the industrial enterprises strategic development management effectiveness indicator allows to conclude about the level of efficiency of the industrial enterprise strategic development management. We shall summarise the evaluation results for each of the enterprises into Tab. 3.

Table 2

Evaluating the industrial enterprises strategic development effectiveness

Year	Quarter	The changes of the effectiveness indicator of strategic enterprise management (EIESDME)		
		Enterprise #1	Enterprise #2	Enterprise #3
2006	I	0.8820	0.6463	0.6038
	II	0.8770	0.6388	0.5975
	III	0.8807	0.6563	0.5900
	IV	0.8985	0.6513	0.5775
2007	I	0.8834	0.6663	0.5750
	II	0.8812	0.6688	0.5763
	III	0.8703	0.6675	0.5725
	IV	0.8720	0.6763	0.5738
2008	I	0.8494	0.6750	0.5075
	II	0.8479	0.6800	0.5050
	III	0.8448	0.6750	0.5013
	IV	0.8517	0.6713	0.5125
2009	I	0.8242	0.6638	0.5163
	II	0.8195	0.6538	0.5250
	III	0.8238	0.6475	0.5100
	IV	0.8226	0.6488	0.5213
2010	I	0.8274	0.6463	0.5150
	II	0.8210	0.6525	0.5250
	III	0.8261	0.6513	0.5300
	IV	0.8314	0.6525	0.5288
2011	I	0.8302	0.6520	0.5285
	II	0.8304	0.6518	0.5283
	III	0.8300	0.6514	0.5282
	IV	0.8301	0.6516	0.5280
2012	I	0.8306	0.6523	0.5196
	II	0.8308	0.6521	0.5208
	III	0.8310	0.6580	0.5227
	IV	0.8329	0.6576	0.5246
2013	I	0.8311	0.6522	0.5286
	II	0.8314	0.6519	0.5285
	III	0.8310	0.6520	0.5283
	IV	0.8311	0.6518	0.5285

Table 3

The results of the industrial enterprises strategic development effectiveness evaluation

Enterprises	Interpretation of the values of the EIESDME
Enterprise #1	An excellent and reasonable level that exceeds the optimal commercial level
Enterprise #2	A good and acceptable level which is providing the optimal commercial level
Enterprise #3	Not good, but still an acceptable level (to ensure the competitiveness of the enterprise should be raised)

Summarizing the results of approbation of the methodology for assessing the effectiveness of industrial enterprises strategic development management it should be noted that its dynamics for a number of years may be due to a variety of circumstances, both internal and external, which may include, inter alia, regional factors or random samples of regional enterprises in other business entities – in this case, results of the evaluating and conclusions about the effectiveness of the their management with the necessary recommendations will be different. One can assume that for other enterprises from other regions (for example, regions with depressed nature of the economy or the economy characterized by persistent recession) the results of evaluating the strategic development management effectiveness will also be different, which, in its turn, depends on the specificity of a particular case. It will call for the development of recommendations of another kind, requiring from the enterprise's management to take adequate decisions corresponding to the current situation.

It is also necessary to note the impact of the global financial crisis on the strategic development management effectiveness at all considered companies, which in varying degrees has had the negative impact on the performance of each group of indicators included in the evaluation.

The general mechanism of action of enterprises to improve the integral index of strategic development management efficiency, taking into account special events of the institutional, industrial and economic character, is shown in Fig. 3. It should be noted that this is a generalized mechanism of actions that does not involve specific rare and complex individual cases that can be discovered at other enterprises.

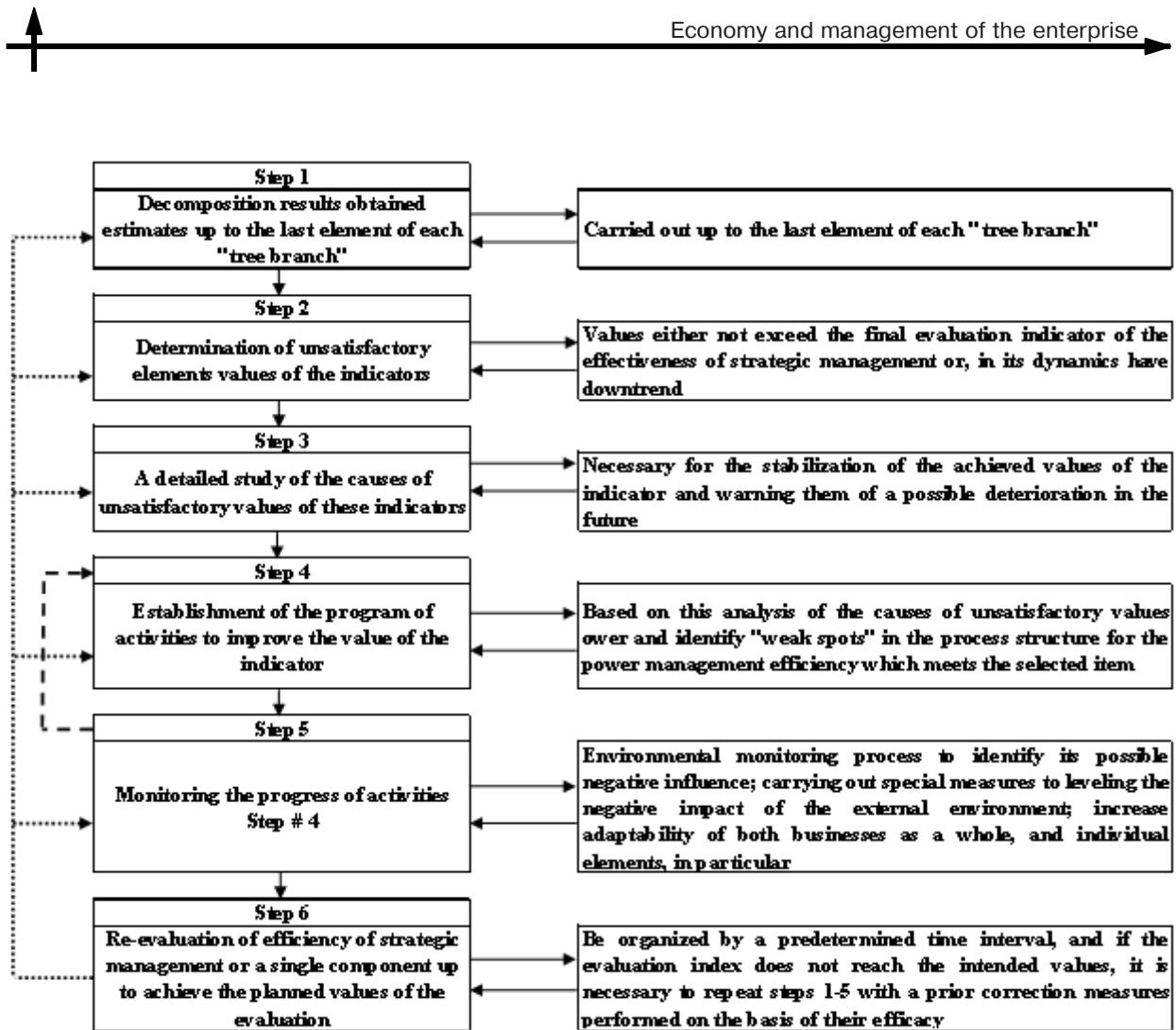


Fig. 3. The common mechanism of action for improve the index of effectiveness of the strategic development

Thus, this article presents evidence that in order to improve the industrial enterprises strategic development management efficiency it is necessary to organize the diagnostic system which includes the monitoring, evaluation and correction of the enterprise resources, in which, alongside with the traditional methods of design and management decisions, the method of qualimetry should be included.

Developed is a methodology of the industrial enterprises strategic development management effectiveness, which includes a synthetic set of hierarchically grouped qualitative and quantitative indicators. Suggested are specific recommendations on the analysis and evaluation of the industrial enterprise strategic development management effectiveness. The essence of the methodological and practical suggestions, recommendations is that they are aimed at solving problems related to the mobilization of internal resources to overcome the crisis, to improve the efficiency

and competitiveness of enterprises, primarily working at the consumer market for goods, operations and services. Results of evaluation of the industrial enterprise strategic development management effectiveness allow to identify the strengths and weaknesses of economy, to clarify the level of use of reserves to improve the strategic management quality.

Methodological and practical recommendations can be used in selecting strategic directions of development for enterprises engaged in different activities, and contribute to reduction of company's costs and improvement of the quality of the produced goods, operations and services. The results of research also can be used for determining the recommendations for constructing of a permanent (operational) system of the industrial enterprises strategic development management effectiveness, as well as finding solutions to the problems encountered in the implementation of such systems in all kinds of organizations.

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