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## Accounting and analytical methods of diagnostics improvement for enterprises' organizational development

**Abstract.** Changes in external conditions for different industries functioning, attracting foreign investments and establishing export-import transactions with entities from different countries, promote intra-organizational development of enterprises. Modern methods of economic analysis and diagnosis are to be actively developed and improved in line with international requirements and the needs of managers. Therefore, the study of ways to improve the methods for organizational development assessment, as a part of balanced and efficient development is important and necessary. The purpose of this article is to outline the system of analytical indicators for assessment of enterprise organizational development (for example agriculture enterprises), as a part of general methodology for performance assessment. The proposed methods of accounting and analytical diagnosis of enterprise organizational development, involve two main approaches: the determination of the integral indicator of balanced development of enterprises in particular region or field and the study of individual coefficients of effect (outcome) and the efficiency of individual processes and components. The integral indicator of enterprise balanced development was proposed to be determined based on the six major integrated indicators: economic, social, environmental, technological innovation, energy and organizational development. Detailed technique for the use of indicators that allows evaluating the effect and efficiency of organizational development on the example of agricultural enterprises and their areas has been shown. The methods of accounting and analytical diagnosis of enterprise organizational development enables to comprehensively evaluate the effectiveness of management decisions on internal, organizational changes at the company, promoting the development of management theory and audit of its results.

**Keywords:** Organizational Development; Accounting and Analytical Methods; Agricultural Enterprises; Diagnosis; Balanced Development

**JEL Classification:** C13; L23; O13

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#### Удосконалення обліково-аналітичної методики діагностики організаційного розвитку підприємств

**Анотація.** Стаття присвячена обґрунтуванню основних напрямів удосконалення методики оцінки організаційного розвитку як складової збалансованого і ефективного розвитку підприємства, що є важливим і необхідним. Розкрито систему аналітичних показників оцінки організаційного розвитку підприємств (на прикладі сільськогосподарських), як складової загальної методики оцінки ефективності діяльності. Запропонована автором методика обліково-аналітичної діагностики організаційного розвитку підприємства, що передбачає два основні підходи: визначення інтегрального показника збалансованості розвитку підприємства у певному регіоні чи галузі та обґрунтування індивідуальних коефіцієнтів ефекту (результату) й ефективності розвитку окремих процесів і складових. Інтегральний показник збалансованого розвитку підприємства, запропоновано визначати на основі шести основних інтегральних показників: економічного, соціального, екологічного, інноваційного-технологічного, енергетичного та організаційного розвитку. Окреслена методика дає можливість комплексно оцінити ефективність прийнятих управлінських рішень щодо здійснених внутрішніх організаційних змін на підприємстві, тобто сприяє розвитку теорії менеджменту та аудиту його результатів.

**Ключові слова:** організаційний розвиток; обліково-аналітична методика; сільськогосподарські підприємства; діагностика; збалансований розвиток.

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#### Усовершенствование учетно-аналитической методики диагностики организационного развития предприятия

**Аннотация.** Изменения внешних условий функционирования для предприятий различных отраслей, привлечения иностранных инвестиций, налаживание экспортно-импортных операций с субъектами хозяйствования различных страны, способствуют внутреннему организационному развитию предприятий страны. Современная методика экономического анализа и диагностики должна активно развиваться в соответствии с международными требованиями и потребностями управленцев. Поэтому обоснование направлений совершенствования методики оценки организационного развития, как составной сбалансированного и эффективного развития предприятия, является важным и необходимым. Целью данной статьи является раскрытие системы аналитических показателей оценки организационного развития предприятий (на примере сельскохозяйственных), как составляющей общей методики оценки эффективности деятельности. Предложенная нами методика учетно-аналитической диагностики организационного развития предприятия, предусматривает два основных подхода: определение интегрального показателя сбалансированности развития предприятия в определенном регионе или области и обоснование индивидуальных коэффициентов эффекта (результата) и эффективности развития отдельных процессов и составляющих. Интегральный показатель сбалансированного развития предприятия, предложено определять на основе шести основных интегральных показателей: экономического, социального, экологического, инновационно-технологического, энергетического и организационного развития. Раскрыто подробную методику применения показателей, позволяющих оценить эффект и эффективность организационного развития на примере сельскохозяйственных предприятий и территорий их функционирования. Предложенная методика учетно-аналитической диагностики организационного развития предприятий, дает возможность комплексно оценить эффективность принимаемых управленческих решений по осуществленных внутренних, организационных изменений на предприятии, то есть способствует развитию теории менеджмента и аудита его результатов.

**Ключевые слова:** организационное развитие; учетно-аналитическая методика; сельскохозяйственные предприятия; диагностика; сбалансированное развитие.

**Statement of the problem.** Balanced development of enterprises is a very complex and multifaceted process, which is being a system of both separate and integral elements with simple and complex relationships between them.

Comprehensive study of this process involves identifying the characteristics of its manifestations and impact on the other sectors of society functioning, trending its direction and reasons that led to this development and most importantly – an analysis of the effectiveness and efficiency of enterprise development in relation to the subjects of external environment.

Diagnostics of enterprise development is a complex process that includes the system of interrelated indicators analysis. Considering rapid changes in external and internal parameters of businesses, growing needs of economic analysis and diagnostics in decision-making, research how to improve accounting and analytical methods of enterprise development diagnostics is very important.

**Brief Literature Review.** There are a number of indicators characterizing the effectiveness of enterprise activity and development in modern economic science. Methods for assessment of entities functioning have been reported by V. Andreychuk [1], I. Boychyk [2], M. Doronin and H. Bilokonko [3], N. Kovalenko [4], V. Kulishov [5], Yu. Lopatynskiy [6], H. Savitska [7] and al. Among the famous foreign scientists who study such problems are: N. Kaplan and D. Norton [8], A. Kuzmin and A. Miller [9], L. Meisel [10], B. Dean [11], R. Banasik [12].

However, indicators given in these studies reflect the performance impact in terms of economic or other factors, separately from each other and usually related to the specific entities – companies and associations, and other industrial structures, and they are often unsuitable for use on more complex object – the area or region. These main disadvantages cause to improve the system of indicators for complete generalized analysis of multifaceted process of enterprise development.

**The purpose** of the article is to study the advanced accounting and economic methods for diagnosing of enterprise organizational development as an important part of a comprehensive evaluation of their effectiveness.

The starting hypothesis is that the improved assessment methods for enterprise organizational development effectiveness should enhance the effectiveness of economic diagnostics of enterprises and area of their functioning. Taking into account that a research of the impact of organizational development is largely dependent on the scope of business and forms of business activity, in this paper we have focused on agricultural enterprises and rural areas of their functioning.

**Results.** The methodological basis of research on the effectiveness of rural area development is to determine the diagnostic criteria and assessment methods. In this respect the system of indicators that provide the possibility of forming a deep and thorough understanding about the effectiveness of the formation of enterprises and certain territorial units and regions has been elaborated.

The proposed system of indicators based on improvement of existing and determination of new ones, involves two main approaches [11]:

- determination of the integrated indicator of balanced development of enterprises in a particular region or field;
- study of the individual coefficients of effect (outcome) and efficiency of individual processes and components.

The integrated indicator of enterprise balanced development is offered to be calculated by the given formula:

$$I_{development} = \sqrt[6]{I_{economic} * I_{social} * I_{organizational} * I_{innovation} * I_{ecological} * I_{energetic}}$$

where:

- $I_{development}$  – balanced development efficiency integrated indicator;
- $I_{economic}$  – integrated indicator of economic development;
- $I_{social}$  – integrated indicator of social development;
- $I_{organizational}$  – integrated indicator of organizational development;
- $I_{innovation}$  – integrated indicator of innovation development;
- $I_{ecological}$  – integrated indicator of ecological development;
- $I_{energetic}$  – integrated indicator of energetic development.

Each of these integrated indicators of the first order is also the result of the integration of other interrelated indicators characterizing the development of individual aspects of the enterprises functioning.

For this analysis, the method for diagnosis of agricultural enterprises organizational development has been shown in detail, since this indicator is often ignored by scientists, but it is necessary in practice.

Indicators of organizational development of agricultural enterprises and rural areas are revealed in terms of two aspects:

- 1) to determine the effect (outcome) of agricultural enterprise organizational development;
- 2) to determine the effectiveness of organizational changes.

1. Determination of the effect (outcome) of agricultural enterprise organizational development

To study the effect of organizational changes in agricultural production in rural areas the given formula has been suggested to calculate the coefficient of the effect from organizational changes (*K eff or*):

$$K\ eff\ or = \frac{\Delta\ AAE * \Delta\ ASE}{\Delta\ GO}$$

where *AAE* – the amount of agricultural enterprises in the region; *ASE* – the average size of agricultural enterprises in the region; *GO* – the amount of gross output per agricultural enterprise.

If the coefficient of the effect from organizational changes > 0, it indicates that there are positive organizational changes connected with the development of the agricultural business in the region. That means that the effect is represented by a positive result.

If the coefficient of the effect < 0, it indicates that the region organizational changes are connected with contraction (reduction) of agricultural enterprises or decrease of their performance. That means that the effect is represented by a negative result.

Alternative variants of the coefficient values of investigated organizational change effects are shown below. Thus, if *K eff or* is greater than (-1), the indicators may be used as one of the following options:

$$1) \frac{(-) * (+)}{(+)} \rightarrow \frac{\text{the numerator is greater}}{\text{the denominator is less}} ;$$

$$2) \frac{(+)*(-)}{(+)} \rightarrow \frac{\text{the numerator is greater}}{\text{the denominator is less}} ;$$

$$3) \frac{(+)*(+)}{(-)} \rightarrow \frac{\text{the numerator is greater}}{\text{the denominator is less}} ;$$

$$4) \frac{(-)*(-)}{(-)} \rightarrow \frac{\text{the numerator is greater}}{\text{the denominator is less}} .$$

That is one of the parameters in the formula, or all at the same time are negative, but the numerator is greater than the denominator. This shows that there have been negative

changes in one or all indicators. Thus, (1), (2) and (4) cases reveal that significant organizational changes in rural areas connected with a reduction in agricultural production have caused relatively small changes in the efficiency of agricultural structures. The third case reflects a situation where positive trends in organizational aspects led to negative changes in the effectiveness of the entity.

So in general the situation when  $K_{eff or} > -1$  indicates generally poor level of agricultural enterprise organization development.

The next case is  $0 > K_{eff or} > -1$ , i.e. alternative variants look as follows:

$$1) \frac{(-) * (+)}{(+)} \rightarrow \frac{\text{the numerator is less}}{\text{the denominator is greater}} ;$$

$$2) \frac{(+) * (-)}{(+)} \rightarrow \frac{\text{the numerator is less}}{\text{the denominator is greater}} ;$$

$$3) \frac{(+) * (+)}{(-)} \rightarrow \frac{\text{the numerator is less}}{\text{the denominator is greater}} ;$$

$$4) \frac{(-) * (-)}{(-)} \rightarrow \frac{\text{the numerator is less}}{\text{the denominator is greater}} ;$$

So (similar to the previous example), one of the parameters in the formula or all at the same time are negative, but the numerator is less than the denominator. This phenomenon reflects a situation when there are relatively insignificant organizational changes in the agricultural sector with negative character, which result in relatively large changes in the efficiency of agricultural structures. These changes can be both positive (in cases 1 and 2), and poor (in cases 3 and 4).

The coefficient of organizational change effect is greater than one if the numerator is greater than denominator, wherefrom significant organizational changes in the agricultural sector do not lead to the expected changes in the efficiency of agricultural enterprises. Sometimes during the expansion of production agricultural enterprises concentrate their efforts on increasing the size of all resource potential and other management segments therefore the gap in growth rates of gross product may be only temporary, and it will give the expected outcome in the future.

In the case where  $0 < K_{eff or} < 1$ , denominator of analyzed indicator should be greater than its numerator. This coefficient reflects the situation where the positive organizational changes in agriculture, accompanied by expanded reproduction of enterprises, cause the higher efficiency of their performance. This is the best option for possible developments when the rational and necessary organizational changes are carried out.

2. Determination of organizational changes' effectiveness.

The proposed above indicator of organizational changes effect shows the character and the overall result of the research phenomenon (made changes in the organizational aspects), that indicates how the taken measures have affected (positively or negatively) on the development of rural areas. To determine whether to continue certain trends in organizational changes or not it is necessary to calculate how effective they are, i.e. to

define organizational effectiveness ( $E_{or}$ ). For this aim, the obtained result (effect) should be compared with the incurred costs to achieve such effect.

$$E_{or} = \frac{K_{eff or}}{C_{or}}$$

where  $C_{or}$  – costs connected with the implementation of organizational changes in agricultural production.

These costs ( $C_{or}$ ) firstly include the following items:

1) The rent for additionally involved farmland, since the expansion of the land area in agricultural enterprises could include renting from the owners, and that is payments for the use of their land shares.

2) Costs related to the acquisition of certain areas of farmland. If the production of agricultural enterprises is expanded by buying land shares in the owners, then this value should include all acquisition costs.

3) Costs related to the payment of land tax on additionally involved areas.

4) Costs related to the involvement of additional resources (material, technical and labor) for the cultivation of expandable areas.

In order to calculate  $B_{or}$ , firstly it is necessary to determine the amount of costs for each type per 1 hectare this year, and then find a general amount of costs on the certain kind by multiplying the amount of costs per 1 hectare on the total increase in agricultural land as a result of organizational change.

Indicator of efficiency in this case will be a coefficient considering the method of its calculation comparing dimensionless coefficient in the numerator and the money measuring instrument in the denominator. The greater the efficiency coefficient is given, the more effective organizational changes were implemented.

**Conclusions.** The results of the study are the improvement of the method of accounting and analytical evaluation of the economic development of company diagnostics. The author's directions for improvement of existing methods involve consideration of the most important indicators characterizing the effectiveness of sustainable enterprise development (for example, agricultural facilities).

Using the proposed indicators to measure the impact of enterprise organizational development, system analytical accounting diagnostics of enterprises efficiency in the region or sector can be conducted. The method based on the integrated values has advantages on the possibility of universal application in various fields. These elaborations will further the development of methods for economic diagnostic of enterprises.

The theoretical value of the results of scientific research is to develop theoretical and applied foundations and methodology of economic diagnosis of enterprises, improving methods of accounting and analytical evaluation and construction of integrated indicators that comprehensively enterprise performance for the period.

The practical value of scientific results is testing techniques developed complex economic diagnosis on the basis of agricultural enterprises, improved reliability assessment techniques and the development of methodologies for evaluating the effect and effectiveness of implemented changes at the enterprises. The resulting scientific and applied results can be used for complex analysis and economic diagnostics in different industries.

Scientific novelty of the results of the study is to develop the theory and practice of accounting and analytical diagnostic performance organization of companies to determine the effects and effectiveness conducted innovative changes.

These elaborations will further the development of methods for economic diagnostic of enterprises, including the further improvement of different integral indicators for evaluating the effectiveness of organizational change in agriculture enterprises.

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