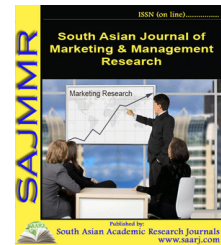




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FACTORS AND TOOLS FOR ASSESSING THE LEVEL OF SUSTAINABLE DEVELOPMENT OF AN INDUSTRIAL ENTERPRISE

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ABSTRACT

The article describes the factors and tools that affect the mechanism of sustainable development of industrial enterprises. The industrial complex of Uzbekistan with a complex differentiated and diversified structure is the most important component of the entire national economy of the country. The changes taking place in the modern economy objectively contributed to the need of studying the issues of strategic management of industrial enterprises in the context of sustainable development. The article discusses theoretical approaches to this issue, different views on the definitions of the categories “sustainable development” and “economic stability”. Conclusions and recommendations are given, factors and tools influencing the mechanism of sustainable development of industrial enterprises are analyzed.

KEYWORDS: *Industrial Enterprises, Sustainable Development, Economical Factors & Tools, Indicator System Of Sustainable Development, Economic Systems.*

INTRODUCTION

Today, the indication of the national economy is determined by the type of activity, such as the industrial sector, which remains the main driving force of economic growth in the developed and developing countries of the world. Industrial enterprises as a key sector in the national economy create opportunities for the stable growth of the entire economic scope of the country.

The main goal of reforming the economy of Uzbekistan, as reflected in official documents, is to abandon the model of raw materials production. Medium and long-term goals of socio-economic development are largely interconnected with the goals of sustainable development. This is reflected in the policy of rational resource consumption and environmental protection, as well as in directives to address the issues of socio-economic development of the country.

The analysis of development strategies at the regional and local levels carried out within the framework of the study has shown that the sustainable development of the domestic economic

system can ensure the continuity of goals and indicators only through the implementation of sustainable development of economic entities at the regional and local levels. Thus, the sustainable development of industrial enterprises is a priority in ensuring the effective functioning of economic systems at the national level.

Along with the need to choose an innovative way of development, the key point that ensures the competitiveness of the national industry in international markets is the observance of the principles of sustainable development and their implementation. Sustainable development goals for industrial enterprises include the following: decent work and economic growth; health and wellness; sustainable consumption and production regime; combating climate change; conservation of terrestrial ecosystems; the quality of education.

Activities in the field of sustainable development in the Republic of Uzbekistan are carried out mainly by large companies - market participants in their industrial segments. First of all, this is due to the need to ensure access to the world market for the implementation of business processes through sustainable development. A prerequisite for the integration of large enterprises of Uzbekistan into global value chains is not only the formal inclusion of sustainable development principles in medium and long-term corporate development programs, but also the observance of these principles in the daily activities of economic entities. This study is aimed at identifying and analyzing the main factors affecting the sustainable development of industrial enterprises, developing a methodology for assessing the rate of sustainable development of an enterprise, developing recommendations for managing industrial enterprises based on an integral assessment of sustainable development.

Analysis of the literature on the topic. The digital economy creates an environment in which social responsibility and sustainable development are of practical importance, and is a real factor of competitiveness in world markets. Indeed, the task is to increase the sustainability of business models in order to achieve global sustainable development goals. This process is gaining momentum in the world before our eyes, primarily with the participation of large companies.

In this case, it is required to identify the factors affecting the sustainable development of industrial enterprises. According to the criteria of the environment of the activity of an economic entity, the factors of sustainable development can be conditionally divided into external and internal factors. External factors are determined by the institutional conditions for ensuring sustainable development of industrial enterprises, which are divided into direct and indirect factors. The classification of external factors is based on the use of the PEST model and the Porter's five forces model, analysis of the research results of scientists such as D.S. Kondaurova, O.A. Zinger, A.O. Kalabaeva, S.M. Anpilova.

Factors directly affecting the above process include actions initiated by suppliers, customers and competitors. And indirect factors are further classified according to their belonging to the economic, social, environmental and legal aspects of sustainable development.

A distinctive feature of the classification of external indirect factors of sustainable development is the presence of new factors, that is, industrial policy that determines the goals and means of sustainable development, as well as periods of development of the national economy, makes it possible to determine the directions of sustainable development of industrial enterprises. The classification of external factors for the sustainable development of industrial enterprises is shown in Figure 1.

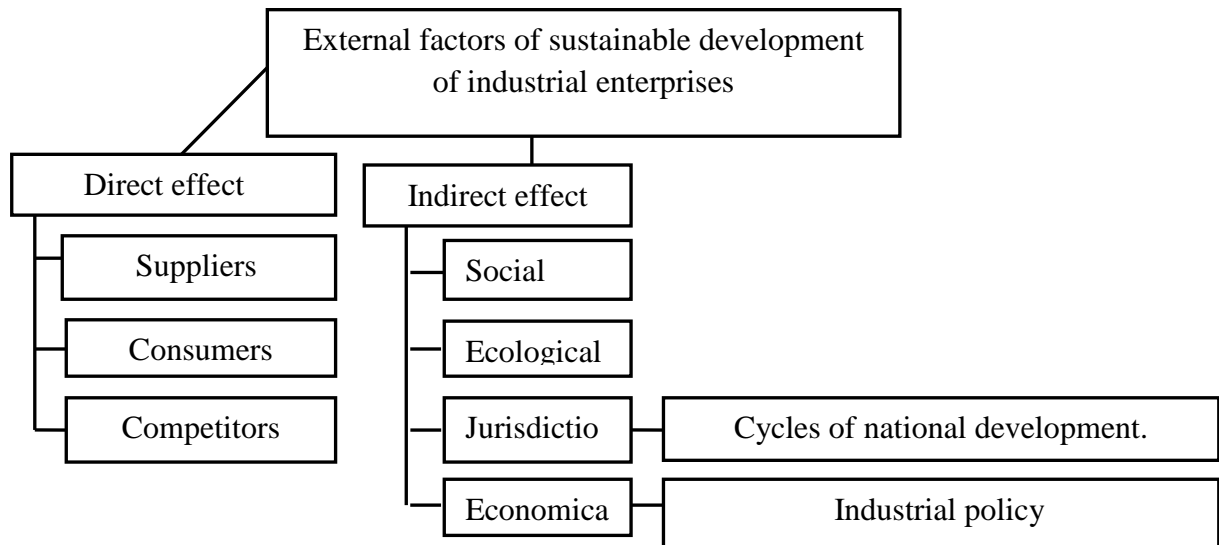


Figure 1. External factors for the sustainable development of industrial enterprises

One of the main external factors slowing down the transition to sustainable development process of the economy of Uzbekistan is the institutional environment, presented in the form of instructions for sustainable development. Analysis of factors and circumstances affecting the formation and development of industrial production, instructions for sustainable economic development, obliging the development and implementation of measures to stimulate the systematic growth of industrial production, a set of guidelines or initiatives of public authorities represent national legislation. Industrial economic policy is characterized by a combination of different types of policies (customs, monetary, tax, technical regulations, etc.) and their instruments, as well as some internal impact on the economy as a whole, which contributes to its development.

Internal factors in the development of an integrated assessment of the sustainable development of industrial enterprises are shown in Figure 2.

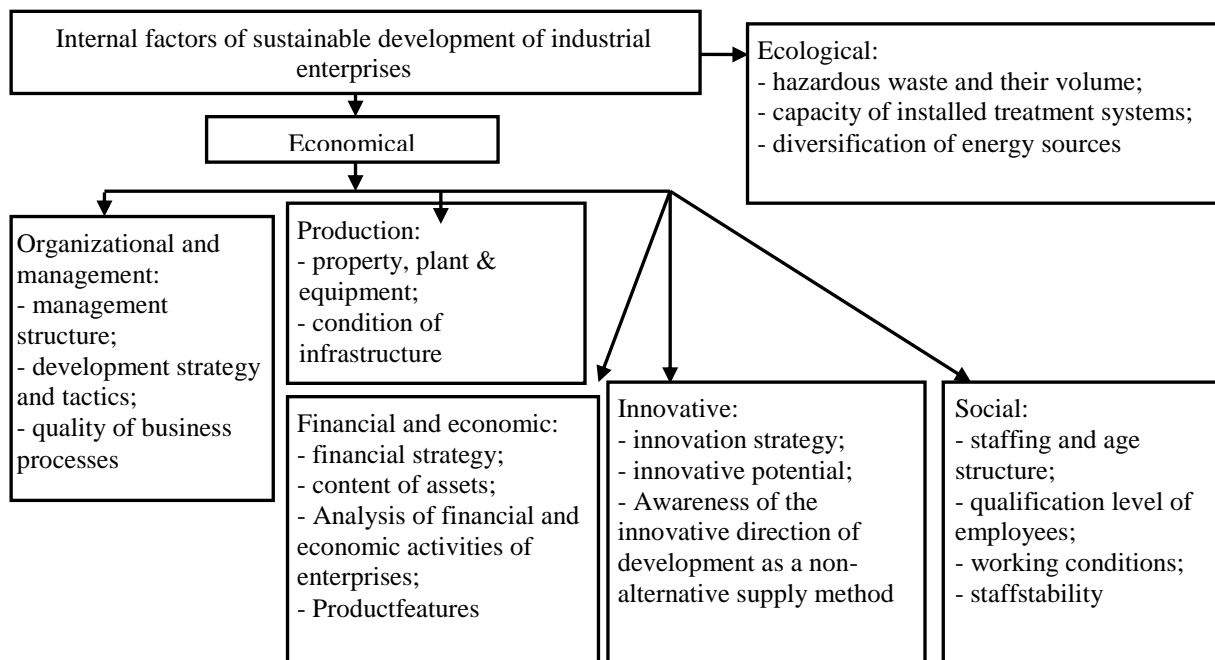


Figure 2. Classification of internal factors the sustainable development of industrial enterprises

Internal factors of sustainable development are determined by the own capabilities of industrial enterprises.

The classification of internal factors of sustainable development of an industrial enterprise is supplemented by new factors: awareness of the innovative potential as a free way to ensure the innovative direction of development (group "Innovative factors"); diversification of energy sources (group "Environmental factors").

The economic function of industrial enterprises is not limited to the production of goods. An important aspect of economic activity is that industrial enterprises are a source of tax payments for the formation of the state budget. The complex nature of sustainable development lies in the need to achieve multifaceted goals that define different requirements. On the one hand, in order to stabilize and improve environmental and social sustainability, priority should be given to the implementation of relevant projects instead of projects that are not economically viable, and the costs of the implementation of which should be invested in profitable projects.

On the other hand, the goal of any model of economic development today in developed and most developing countries is to minimize costs while simultaneously increasing income accordingly. These circumstances justify the priority of the economic direction of sustainable development and the urgency of the task of finding a model of economic development that balances the social and environmental components. This situation obliges the development and adoption of legislation encouraging industrial enterprises to include in their expenses the costs of implementing environmentally and socially oriented projects.

RESEARCH METHODOLOGY

The validity and reliability of the research results are confirmed by the following: the use of theoretical, methodological, statistical analytical data obtained from reliable sources; analysis of scientific articles by domestic and foreign scientists published in reputable scientific journals in the field of theory and practice of sustainable economic development; to study the methods for assessing the sustainable development of industrial enterprises developed by local scientists and scientists from the CIS countries using a wide range of research methods.

The theoretical and methodological foundations of the factors influencing the process of sustainable development of industrial enterprises have been developed by foreign economists. For example, E.A. Tretyakov, T.V. Alferov, Yu.I. Pukhov, N.A. Khomyachenkova, I.A. Ilicheva and others contributed to the development of this field of science.

The main conclusions drawn from the analysis are: the complexity of most of the analyzed methods; most attention is paid to the economic aspect of sustainable development

Static indicators that characterize the state of the system at a certain point in time reflect its stability, while dynamic indicators, such as growth rates, describe the level of development of an enterprise over a certain period of time. T.A. Khudyakov analyzed methods for assessing sustainable development, developed as an integral indicator. In the course of the research, the following conclusion was made: the integral indicator should be based on probabilistic and statistical approaches, and this will provide specificity in comparison with the methods recommended by most authors on the basis of expert calculations; the integral indicator should help us evaluate and predict the financial and economic stability of the enterprise, regardless of the input factors in the stimulating models, that is, the cash flow of the enterprise, but the value of its profit is used as an input parameter for the analysis of economic stability, etc. indicators of financial analysis and a separate economic stability of the enterprise allows you to combine a generalized assessment in a separate analysis with an assessment of individual aspects of the stability of an economic entity; indicators included in the methodology for assessing financial and economic stability should be quantitative; the use of integral financial and economic indicators; sustainability rate can give a generalized comparative assessment of the efficiency of economic systems and be of a relative nature.

However, the integral indicator of sustainability in different groups should have an identical calculation methodology; the methodology of financial and economic assessment and forecasting should fully take into account the dynamics of the input parameters of the sustainability model, and the resulting value of the level of financial and economic sustainability should be constant throughout the interpretation; To interpret the level of financial and economic stability, the characteristics of certain ranges must have a rating scale.

Analysis and results

Ensuring the achievement of sustainable development goals at all levels of economic activity, assessment of the correct choice of the tools used and the level of achievement of the set goals requires the development of appropriate criteria and indicators of sustainable development.

When monitoring sustainable development, two approaches are widely used: a system (set) of indicators for monitoring sustainable development, each of which reflects a separate (narrowly focused) state of the object of economic activity. Within the framework of the general system,

indicators are grouped according to the following indicator systems: environmental; economic; social; institutional.

The merger is carried out on the basis of three subgroups of indicators: environmental and economic; environmental, social and economic; ecological.

The first approach is based on the theoretical foundations of the "sustainable development" of an economic object. The peculiarity of the second approach is that it is focused on the separated parties and is determined by the practicality of the system of indicators for monitoring the areas of activity that are considered the most priority for decision-makers. In practice, it is very difficult to classify the approaches of the first or second category separately. The advantage of the conceptual approach is that it is based on established theories.

The positive side of the second approach is that a complex indicator is more effective for assessing the sustainable development of an object and identified areas of activity.

Studies carried out by foreign and domestic scientists have shown that the use of an assessment methodology developed on the basis of a systematic (integrated) approach to sustainable development provides a good statistical basis for all aspects of the activities of industrial enterprises (economic, environmental, social).

At the same time, the availability of a large amount of data in various fields of activity creates difficulties for decision-makers in the process of developing economic policy: monitoring and assessing the achievement of sustainable development goals using integral indicators has a clear advantage in decision-making. The complex nature of the integral indicator, despite the subjectivity factor in the process of determining the weight coefficients, additionally substantiates the prospects of using this approach to assess sustainable development by comparing with the use of the systemic principle.

Table 1 presents the currently developed methods for assessing the sustainable development of industrial enterprises. The choice of methods was made on the basis of two criteria: the maximum representation of the components of sustainable development, the presence of a published computational algorithm.

TABLE 1 METHODS OF ASSESSING THE SUSTAINABLE DEVELOPMENT STATE OF INDUSTRIAL ENTERPRISES

The author of the method.	Calculation formulas.	Features of the implementation.
Xomyachenkova N.A.	$Y_{yp} = \sqrt{Y_{\varepsilon p} * Y_{\sigma p} * Y_{\delta b} * Y_p}$ Where $Y_{\varepsilon p}$, $Y_{\sigma p}$, $Y_{\delta b}$, Y_p are integral indicators of economic, environmental, social sustainability and resilience to risks. $Y_{\varepsilon p} = \sum a_i \Phi_i$ Where a_i , Φ_i weights and generalized indicators of economic stability $\Phi_i = \sqrt{K_n}$ where, K_n are the coefficients of generalized indicators $Y_{\sigma p} = \sqrt{S_x \cdot n}$ Where, S_x - the mechanism for calculating the	The method uses a combination of geometric mean and addition function method. Determines in advance the subjectivity of the results obtained using the weighting factors.

	coefficients of social stability. Y_{cp} is similar to $Y_{\text{эс}}$ and $Y_{\text{п}}$ computational ways	
Ilicheva A.V.	<p>$I_{y.p.} = I_{\text{эк.}} * qi + I_{\text{соц.}} * qi + I_{\text{экол.}} * qi + I_{\text{вн.}} * qi$,</p> <p>where, $I_{\text{эк.}}$, $I_{\text{соц.}}$, $I_{\text{экол.}}$, $I_{\text{вн.}}$ – $I_{\text{соц}}$ – economic, social, environmental and external sustainability, respectively.</p> <p>The calculation of the local characteristics of the socio-ecological courses is carried out according to the $I_{\text{соц}}$ formula.</p> <p>$(I_{\text{экол.}}) = \sqrt{I_1 * I_2 * \dots * I_n}$.</p> <p>The calculation of the local characteristics of the economic and external courses is carried out according to the formula $I_{\text{эк.}}$.</p> <p>$(I_{\text{вн.}}) = \sum I_k * q_n$</p> <p>where I_k is the specific indicators of sustainable development of the enterprise in terms of economic and external stability;</p> <p>q_n – n-the attraction coefficient of the n-th indicator.</p>	The method uses a combination of geometric mean and addition function method. Determines the subjectivity of the results obtained using weighting factors.
Perskiy Yu.K., Lepixin V.V., Semenova E.V.	<p>$I = (X, Y, Z)$,</p> <p>where X is the aggregate index of the economic environment and $X \in [0,3]$, Y is the aggregate index of the ecological environment and $Y \in [0,3]$, Z is the aggregate index of the social environment and</p> <p>$Z \in [0,3]$ $X = \sum ai * ni = 1$ xi if $\sum aj * ni = 1$ $xi \geq 0$ $X = 0$ if $\sum ai * ni = 1$ $xi < 0$,</p> <p>where, ai is expert estimate of the weight of the i-indicator of the -economic environment, X – the cumulative indicator of the economic environment, and $\in [0,3]$.</p> <p>A similar computational mechanism for the environmental and social dimension.</p>	The methodology uses the attraction coefficients of indicators of the components of sustainable development, which largely justifies the uncertainty of the results.

It is required to develop the author's interpretation of the methodology for assessing the sustainable development of an industrial enterprise.

The most promising approach to assessing the sustainable development of a particular enterprise (for example, an industrial enterprise) is the use of integral indicators. This is justified by the complex nature of the assessment method, which takes into account all areas of the industrial enterprise (economic, environmental and social) and the possibility of obtaining a result that provides sufficient convenience in determining economic policy. The state of the national economy is determined by the level of development of industrial enterprises, since they are key components of economic systems.

CONCLUSIONS AND SUGGESTIONS

For the interpretation of numerical values in the Sustainable development assessment methodology, Table 2 provides recommendations on management measures for a comprehensive assessment of the sustainable development of an industrial enterprise.

Table 2 presents recommendations for managing the enterprise in the cycle of economic development, which is in a certain range of sustainable development.

TABLE 2 RECOMMENDATIONS FOR THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT OF INDUSTRIAL ENTERPRISES.

Phases of the cycle of national economic development	Stable growth zone	Recommendations for the management of sustainable development of industrial enterprises.
Growth (upswing of the cycle)	Sustainable development sector	Implementation of investment projects in order to diversify types of products with the involvement of horizontal instruments of state industrial policy (state guarantees). Dividend policy priorities: 50% - payments to shareholders, 50% - investment costs (25% - for the modernization of the technopark, innovative renewal of the product type, 5% - for socially oriented projects; 20% - for environmentally oriented projects).
	Medium sustainable development sector	Technical re-equipment of an industrial enterprise with the aim of optimizing production costs, expanding the range of products by adding innovative products, using horizontal means of state industrial policy (state guarantees). Dividend policy priorities: 25% - payments to shareholders, 75% - investment costs (35% - for the modernization of the technopark, innovative renewal of the product type, 20% - for socially oriented projects; 20% - for environmentally oriented projects).
	Unsustainable development sector	Analysis of the financial and economic condition of an industrial enterprise, the number of employees, marketing, production, sales and other policies. Vertical instruments of state industrial policy - state orders, state funding, direct state participation.
Phase of decline	Sustainable development sector	Implementation of innovative developments using horizontal industrial policy instruments (tax subsidies for research, grants for research, etc.). Dividend policy priorities: 40% - payments to shareholders, 40% - development (research work to create the foundations for the production of new types of products in a strategic future, benchmarking to analyze new promising areas of activity), 10% - environmental projects, 10% - social projects
	Medium sustainable development sector	Analysis of the financial and economic condition of an industrial enterprise, the number of employees, marketing, production, sales and other policies. Vertical instruments of state industrial policy - government procurement, government funding, direct government

		participation, replacement of management of industrial enterprises with management that is capable of "transferring" an enterprise from a zone of instability to a zone of medium sustainable development in the near future. Dividend policy priorities: 100% foreign investment - innovative renewal of the assortment, modernization of the technological equipment park.
	Unsustainable development sector	Bankruptcy and sale of enterprises to new owners and change of the main activity.

Thus, at our discretion, in order to develop this integrated approach, it is necessary to fulfill the following priority tasks:

1. To develop a type of industrial enterprise, which, in the sustainable development of an industrial enterprise, is distinguished by its triangle, production, economic, social and environmental directions of development and allows to implement the developed concept.
2. The main role of industry, which is to provide itself and other sectors of the economy with the means of production, justifies the importance of industrial enterprises in the national economy and thus confirms the need to cover the lower levels of industry. Planning and management of processes are provided through the formation of a national economic system for sustainable development and the concept of sustainable development of industrial enterprises.
3. A classification of external factors for sustainable development of an industrial enterprise has been developed, including new factors: cycles of development of the national economy and industrial policy, which determine the goals and means for achieving sustainable development, the main directions of activities of an industrial enterprise to achieve sustainable development goals.
4. The implementation of national legislation in the field of industrial development is carried out using the tools of vertical and horizontal industrial policy applied at different stages of the development cycle of the national economy, which in the long term makes it possible to predict and manage the sustainable development of industrial enterprises.
5. For the effective implementation of industrial policy at all levels of economic activity, it is necessary to implement the following measures: compatibility of sustainable development goals; creation of new and "modernized" indicators for achieving sustainable development goals; encouraging the implementation of "modernized" indicators of industrial enterprises.
6. The application of an integrated (complex / aggregated) indicators of sustainable development is considered effective in assessing the achievement of the goals of sustainable development of an industrial enterprise.

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