Monitoring the economic stability of the company's business processes as a prerequisite for sustainable development: investment and security aspects

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Abstract. The economic stability of the company's business processes was monitored, especially during the period of implementation of the benefits of sustainable development, which will attract new investment flows and ensure economic security. A conceptual model for monitoring the economic stability of the company's business processes has been developed. A methodical approach to monitoring the economic stability of the company's business processes by influencing the financial, personnel, marketing, innovation, production components depending on the qualitative and quantitative characteristics of available resources is proposed.

1. Introduction

The process of globalization in the current financial and political instability and economic crisis, the dynamic development of most areas of activity, fierce competition and variability of the external environment weaken the chances of economic entities to withstand various changes. The company in the process of production and economic activity is an open socio-economic system and it has to carry out business processes in different industries and in different areas of activity, which depend on the characteristics of the competitive market. Its positive changes create conditions for the development of the company and opportunities for investment, negative changes create dangers for the rhythmic functioning due to destabilize the production and economic process. In this regard, companies must build a management system for sustainable development, which contributes to its financial stability, competitiveness, efficient operation in the market, the organization of production aimed at reducing the material consumption of products.

The conceptual foundations of sustainable development allow companies not only to easily adapt to changes in the environment, but also to constantly evolve. This situation requires considerable attention to determining and monitoring the sustainability of business processes and developing theoretical foundations for building a process of sustainable development management of the company.

2. Critical literature review

The system of ensuring the economic stability of the company significantly depends on the influence of external and internal environment. Continuous monitoring of each component of the company's business processes will be a prerequisite for the development and economic sustainability of the company through investment and security aspects, as well as the development of effective measures to prevent the dangers of unstable activities. To achieve sustainable development, companies must focus their activities on such areas as: investment and finance, innovation, product quality management systems (services), updating the range, human capital.

2.1. Monitoring the company's business processes as a result of ensuring their economic stability

A significant number of scientific works and economic studies of domestic and foreign authors: M. Hammer and J. Champy [1], T. Davenport and J. Short [2], M. Porter [11], L.I. Chernobay [10], V.V. Prokhorova [5], I.M. Soft [6], T.I. Lepeyko [7] and others are devoted to the definition of the essence of business processes and methods of their improvement. According to August-Wilhelm Scheer [4], business processes are a connected set of repetitive actions (functions) that convert input material and / or information into the final product (service) in accordance with pre-established rules. Of particular note is the definition suggested by M. Hammer and J. Champy [1],noting that business processes are a set of different activities in which "input" uses one or more types of resources, resulting in "output" - a product that represents value to the consumer. The researchers Thomas Davenport and James Short have made significant contributions to a theory of business process. According to their scientific results, the sustainability of business processes should be considered as a set of logically interdependent actions performed to achieve a certain "output" of business activities [2]. The work, which focuses on the formation and optimization of innovative business processes [3], provides a more detailed definition: a business process is a discrete set of actions designed and structured to produce a specific product (goods / operations / services) for a particular consumer or market. According to V.V. Prokhorov, sustainability of business processes is a continuous cyclic process of alternation of management of the functional spheres general functions of the company activity and the controlled parameters of the external environment to achieve a desirable level of sustainability. But some issues of measuring, projecting and monitoring the business processes of the company remain unstudied, because economic transformation requires newer approaches and solutions.

In modern conditions, there is economic inequality in the development of economic agents as an independent factor hindering regional socio-economic development. The main focus in the transformation of the economy is the structural optimization of both technical and technological complexes as well as organizational and economic complexes, which is carried out by new management methods and investment resources. The laws of economic development are characterized by uneven economic conditions, periodically occurring structural crises and technological changes, the imbalance of the processes of technical and economic development and the uncertainty of technological trajectories [9].

Sustainable development of the company should be considered as its ability to carry out continuous economic activity at any time in conditions of uncertainty of environmental influences that disrupt the normal functioning and development of the company. The implementation of sustainable development programs gives the company a number of economic, social and environmental benefits [13-15]. Such advantages include: increasing the level of company management; improving the company's social reputation; new market opportunities; growth of investment attractiveness of the company; innovative approach to the development of goods and services; risk minimization; increasing the efficiency of resource allocation and reducing costs. However, when implementing sustainable development programs, companies face a number of problems that need to be addressed through monitoring, reengineering and redesign of existing business processes.

When forming a business process management strategy through reengineering and redesign, a methodical approach is usually used, which is based on the analysis of the external environment of the company, assessment of its strengths and weaknesses, innovation competencies, research of

overcoming limited resources by using the potential partners. The company taking into account the risks makes decisions on business process management through reengineering and redesign. Analysing the process of managing business processes based on reengineering and redesign, it was found that their use can help reduce the likelihood or negative consequences of a number of risks [12].

Modern areas of development of the companies' efficient activity demand a rational choice of ways of business processes management of the company. Monitoring the economic sustainability of the company's business processes is to track economic performance indicators of the company, aimed at timely detection and early prevention of problems, as well as deviations from their criteria. Monitoring the economic sustainability of the company's business processes is a complex system that provides a set of interconnected and complementary components: principles, aims, monitoring tools, support resources and methods, functions, and economic security (Fig. 1).

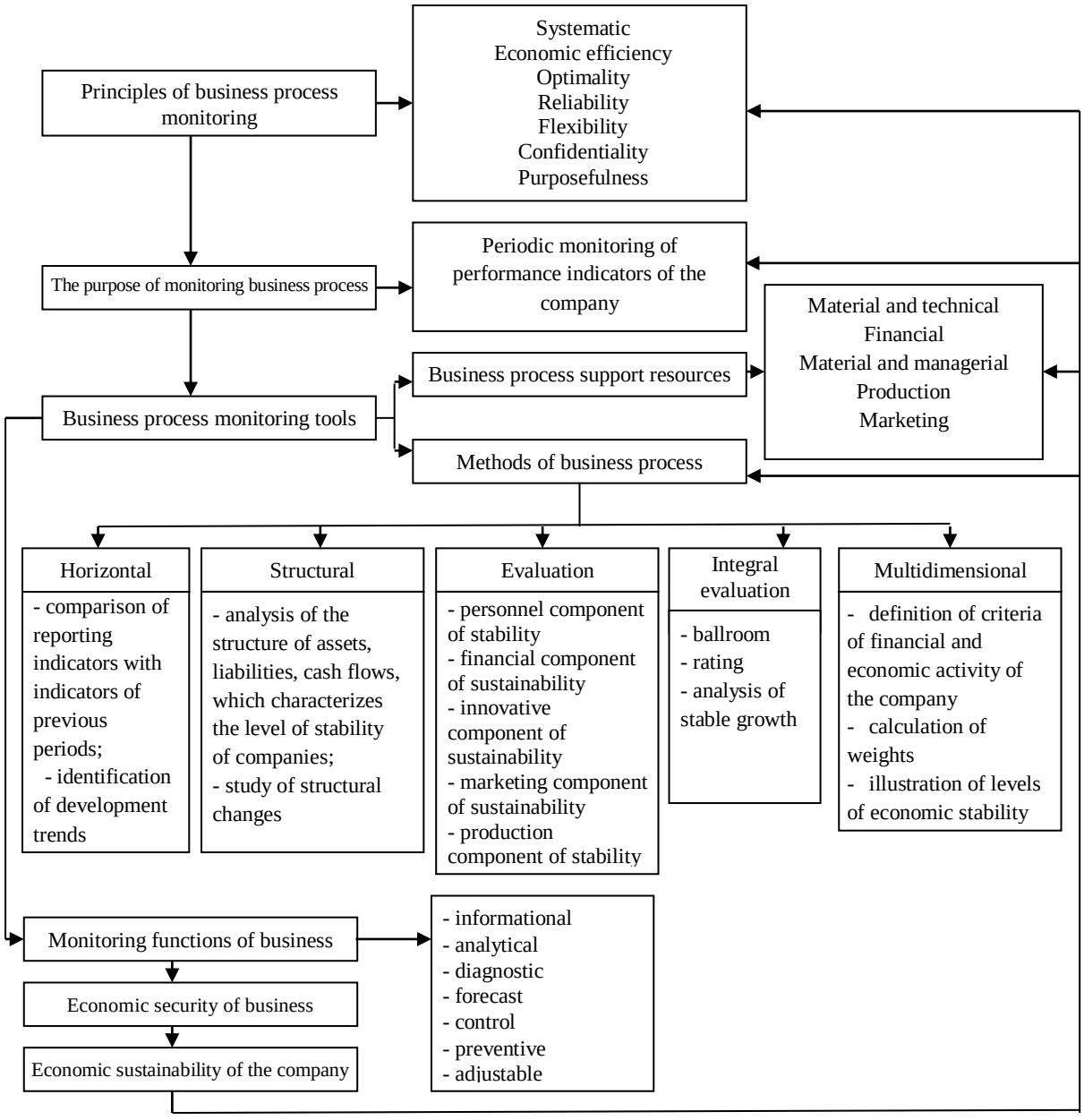

Figure 1. Conceptual model of economic stability monitoring business processes of the company in the period of sustainable development

The functions of monitoring the economic sustainability of business processes of the company interact with the internal components and are aimed at fulfilling the tasks that determine the aim of this process. According to the functional aspect of the company's business processes that provide economic sustainability to the company perform the following functions:

1) aimed at ensuring the collection and preliminary processing of information on economic performance indicators of the company;
2) aimed at analyzing the economic performance of the company;
3) aimed at forecasting changes in economic performance of the company;
4) aimed at supporting management decisions regarding the efficiency of the company;
5) aimed at adjusting performance indicators.

Thus, any company, which plans to develop or survive in the dynamic environment, has to work in the process of persistent changes, because its capacities of continued functioning are endangered. In such cases, the current economic environment for most organizations has such format that introduction of changes turned from emergency situation into the usual systematic process. The companies are forced to become flexible, constantly respond to changes in the external environment, develop and realize various local and global projects of changes in their business activities, which should develop without loss of control [8].

The suggested conceptual model allows ensuring the objectivity of monitoring the economic sustainability of the company's business processes through a system of economic performance indicators, justify and reflect its internal structure, which consists of structural elements of the monitoring system, depending on the origin of existing strategic business units, which form the conceptual basis for the use of such a system in order to ensure the economic sustainability of the company in investment and security aspects in the period of sustainable development.

2.2. A subsection

Ensuring the economic sustainability of energy companies is achieved through the economic sustainability of the company's business processes, which will be a prerequisite for both development and preservation of its economic system. It is advisable to monitor the economic sustainability of company's business processes on the basis of the use of interdependent and interconnected components of business processes that reflect the results of the company in investment and security aspects.

Achieving sustainable development of energy companies is formed by assessing the economic sustainability of the company's business processes, which in turn forms the company's mission and strategic goals. Balanced and harmonious coordination of the company's mission and strategic goals with the goals of sustainable development affects the increase of innovation activity and security.

When evaluating the economic sustainability of business processes of an energy company in the security aspect, the following indicators are taken into account: financial, personnel, innovation, marketing and production component of the company. The investment attractiveness of the company's business processes is largely determined by the efficiency of investment and innovation policy and the production management process. By means of a correlation-and-regression analysis, a multifactor model of the integrated performance indicator of the components of internal business processes of companies is created, which is carried out according to the following indicators: asset turnover ratio; profitability (loss) of fixed assets; equity turnover ratio; profitability (loss) of sales; current liquidity ratio; coefficient of financial independence; equity maneuverability ratio; asset turnover ratio; profitability (loss) ratio per employee; staff stability ratio; salary capacity; the coefficient of innovation of the company; coefficient of financing of innovative development; share of intangible assets in the balance sheet currency; product profitability; turnover of finished products; profitability of sales.

A methodical approach to monitoring the economic stability of the company's business processes in the investment and security aspects in the period of sustainable development, which provides for the consistent implementation of five stages (Fig. 2).

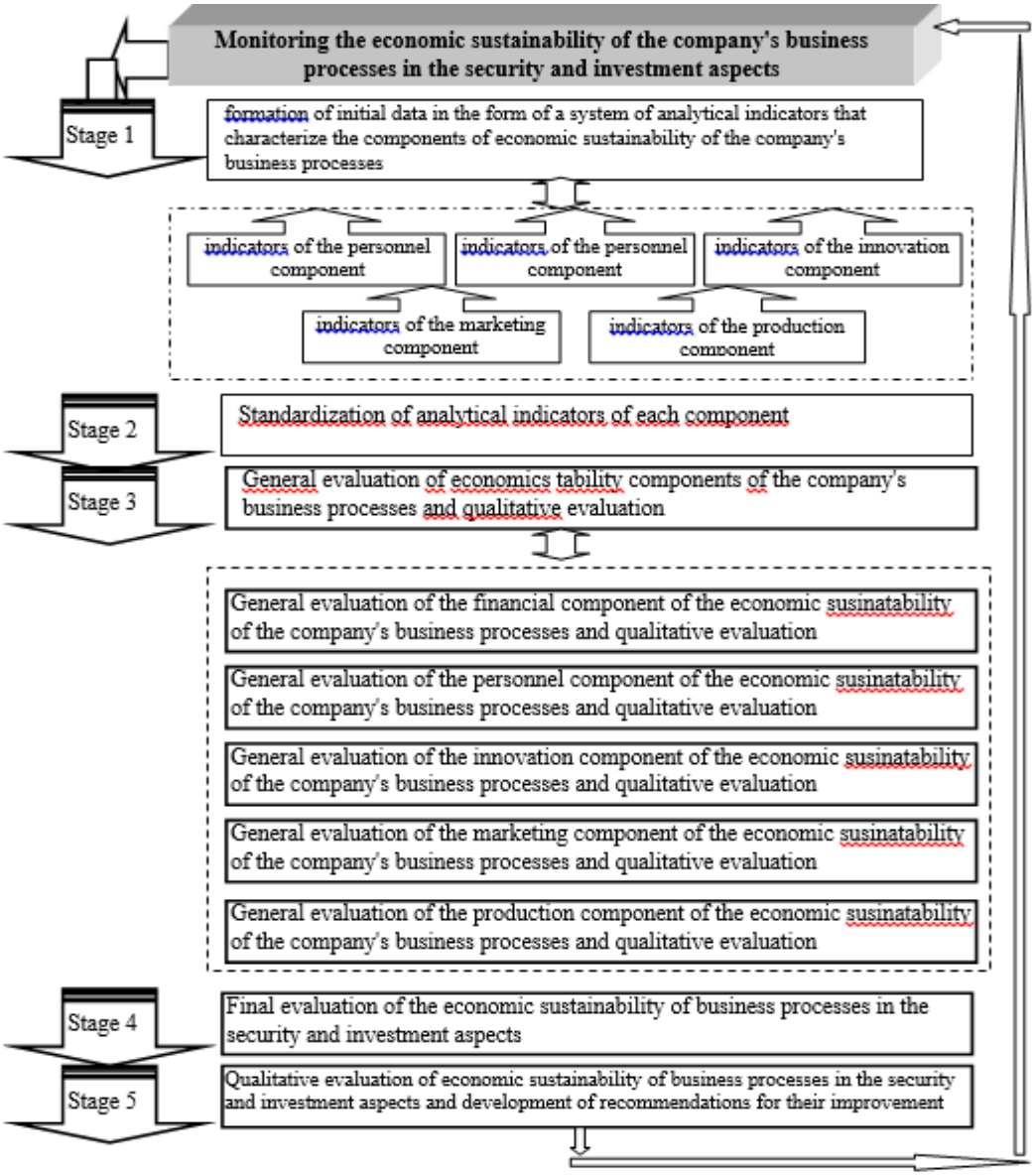

Figure 2. Algorithm for monitoring the economic sustainability of the company's business processes in the context of its investment and security aspects

Stage 1. Formation of initial data in the form of the system of the analytical indicators characterizing components of economic sustainability of the company's business processes.

The data of the accounting (financial) reporting of companies are used as an empirical basis. A system of analytical indicators of economic sustainability of business processes of the company is formed, which is the basis for all further calculations.

Stage 2. Standardization of analytical indicators.

In oder to bring a significant number of different indicators in a comparable form, they need to be standartized. That is, to make the transition from absolute values to standartized, characterizing the degree of approximation to the optimal value, as well as to ensure information unidirectionality of standartized indicators, separating indicators stimulators (the higher the value of the input indicator, the higher the quality of the summary indicator) the lower the quality of the summary indicator).

Stage 3. Generalized evaluation of the components of economic sustainability of the company's business processes in the context of investment and security aspects and their qualitative evaluation.

At this stage, based on a correlation-and-regression analysis, multifactor models of production, financial, personnel, innovation and marketing component of economic sustainability of the company's business processes are created (Table 1), as they are a reflection of both the use of company resources and aggregate areas of improvement of its activities for certain business processes.

Table 1. Models of the general evaluation of economic sustainability components of the company's business processes

Components of economic sustainability of the company's business processes	Models of the general evaluation of components of economic sustainability of the company's business processes	For-mula num-ber	Multiple R Value	Characteristics of the relationship with factor indicators
Production	$I_{вс} = -0{,}098 + 0{,}247x_1 + 0{,}497x_2 + 0{,}371x_3 + 0{,}125x_4$ where x_1 - asset turnover ratio; x_2 - profitability (loss) of fixed assets, coefficient; x_3 - turnover ratio of equity; x_4 - profitability (loss) of sales, coefficient	1	0,896	high, close to tight
Financial	$I_{фс} = 0{,}135 + 0{,}237x_1 + 0{,}450x_2 + 0{,}251x_3 + 0{,}170x_4$, where x_1 is the current liquidity ratio; x_2 - coefficient of financial independence; x_3 - coefficient of maneuverability of equity; x_4 - asset turnover ratio	2	0,866	high, close to tight
Personnel	$I_{кс} = 0{,}397 + 0{,}438x_1 + 0{,}188x_2 + 0{,}099x_3$, where x_1 is the coefficient of profitability (loss) per employee; x_2 - coefficient of frame sustainability; x_3 - salary.	3	0,926	high, close to tight
Innovation	$I_{ic} = 0{,}397 + 0{,}438x_1 + 0{,}188x_2 + 0{,}099x_3$, where x_1 is the coefficient of innovation of the company; x_2 - coefficient of financing of innovation development; x_3 - share of intangible assets in the balance sheet currency	4	0,803	high, close to tight
Marketing	$I_{мс} = 0{,}397 + 0{,}438x_1 + 0{,}188x_2 + 0{,}099x_3$, where x_1 - product profitability, coefficient .; x_2 - turnover of finished products; x_3 - profitability of sales, coefficient	5	0,691	high

Interpretation of generalizing indicators of financial, personnel, innovation and marketing component of economic sustainability of the company's business processes in the security and investment aspect is carried out on a five-point scale of Harrington.

Stage 4. Final evaluation of the economic sustainability of the company's business processes in the context of security and investment aspects.

Evaluation of economic sustainability of the company's business processes is carried out on the basis of calculation of the final indicator by qualimetric projecting (6):

$$I_{ЕП} = a_1 I_{вс} + a_2 I_{фс} + a_3 I_{кс} + a_4 I_{ic} + a_5 I_{мс}, \quad (6)$$

where $I_{ЕП}$- the final indicator of the evaluation of economic sustainability of the company's business processes; $a_1, \ldots, a_5$ - the share of the impact of the relevant components of economic sustainability of the company's business processes.

Stage 5. Qualitative evaluation of economic sustainability of the company's business processes in the context of security and investment aspect and development of recommendations on its increase.

Interpretation of the final indicator of economic sustainability of the company's business processes is carried out on a five-point scale of Harrington. The flow from one level to another is possible both in the direction of increase and decrease, due to the presence of levels of economic sustainability of

business processes by influencing the financial, personnel, marketing, innovative and production components depending on the qualitative and quantitative characteristics of the available resources. The choice of the priority variant of use of a security or investment component is caused by a qualitative evaluation from very low (0-0,2) to very high (0,8-1). If the level of economic sustainability is in the range of low (0-0.2) the company in the process of activity should pay attention to increase the economic sustainability of business processes of the security component, and if it is in the range of medium level (0.37-0.63) the company should pay attention not only security, but also the investment component. If the level of economic sustainability is in the range of high (0.63-0.8) or very high (0.8-1) and it indicates a sufficient level of economic sustainability, and the company needs to pay attention to the investment component.

The last stage of the methodological approach is the construction of a matrix that will provide a description of companies taking into account the relevant factors and the opportunity to develop recommendations for ensuring the security of the company's business processes.

3. Results and discussions

Within the research, monitoring of economic stability of business processes of energy companies in investment and security aspects (Table 2).

Table 2. Actual and projected values of the final indicator of economic stability of the company's business processes

Company	2016	2017	2018	2019	Project 2020	Project 2021
Energy Company 1	0,703	0,668	0,656	0,722	0,728	0,731
Energy Company 2	0,837	0,776	0,790	0,839	0,871	0,892
Energy Company 3	0,676	0,714	0,643	0,625	0,538	0,528

The monitoring of business processes of energy companies in the context of investment and security aspects indicated that during the analyzed period (Table 2) have a high value of the final indicator of Energy Company 2 (range of values - 0.837 in 2016, 0.839 – in 2019), Energy Company 1 (range of values - 0.656 - 0.722). Thus, the companies with sufficient internal resources to maintain market positions in local markets, are attractive for investment, the security of reducing economic sustainability is negligible. As the value of indicators of Energy Company 1 tends to increase, the company can move to the stage of operation with a decrease in the probability of reducing the economic sustainability of business processes. Energy Company 2 is attractive for investment for external and internal investors, the security of reducing economic sustainability is insignificant.

There is a decrease in the final indicator of economic sustainability of business processes at Energy Company 3 (from 0.676 in 2016 to 0.625 in 2019). The company operates, but does not have sufficient investment resources for development. A further decrease in the value of the indicator will increase the loss of economic sustainability of business processes and reduce investment opportunities.

Thus, monitoring the economic sustainability of business processes by applying the suggested methodological approach leads to the conclusion that Energy Company 1, Energy Company 2 should pay more attention to the production and innovation component, and Energy Company 3 - financial, production, human resources and innovation component, which will reduce the security of loss of economic sustainability of business processes.

4. Conclusions

A conceptual model for monitoring the economic sustainability of the company's business processes is suggested, which is based on a methodological approach to assessing the economic sustainability of the company in investment and security aspects based on a system of indicators that determine production, personnel, financial, innovation and marketing components by qualimetric and mathematical projecting. This methodological approach involves identifying the impact of each

component on the overall condition of the company, which creates a basis for developing a program to manage the economic sustainability of the company's business processes in order to increase investment opportunities and reduce security loss of economic sustainability in the period of sustainable development. In order to maximize the investment attractiveness and security of the company in the market, business processes need to optimize and establish a balance between customer satisfaction and competing market forces on the one hand and the efficiency of business processes on the other. Monitoring the economic sustainability of the company's business processes in the context of its security and investment aspects will facilitate their choice for practical application in the energy companies.

Having conducted this research, we can say that companies are encouraged to organize their activities with a focus on sustainable development to achieve these benefits. Also, companies in the direction of activities on the path to sustainable development, should implement a program of measures taking into account possible difficulties and minimizing their impact on the basis of investment attractiveness and security.

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