

**INTERNATIONALIZATION AND BUSINESS  
PROCESS REENGINEERING OF MANUFACTURING  
COMPANIES AS A PRECONDITION OF ENERGY  
EFFICIENCY OF PRODUCTION AND INCREASING  
OF ENERGY SECURITY**

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In the conditions of the European integration vector for the development of post-soviet countries, which Ukraine and Lithuania need to include, the importance of implementing the concept of change management in the work of industrial enterprises, which is aimed at increasing the energy efficiency of production, is becoming more and more acute. A prerequisite for this phenomenon is a lot of factors, which for a long time had a negative impact on the work of industrial companies of different sectors of Ukraine and Lithuania. These factors include:

- high level of physical wear of production equipment;
- long time orientation of industrial products to the eastern markets, primarily the market of the Russian Federation;
- outdated technological processes and design and technological documentation of production products, which has

not changed since the Soviet Union and was in line with the outdated requirements of customers of industrial products;

- the absence of a scientific component in the production of industrial products, resulting in a decrease in the level of competitiveness of products both on the domestic and on external (international) markets;

- significant loss of market segments as a result of political actions, economic wars from Russia in relation to the Ukrainian and Lithuanian economic systems;

- low level of good citizens of the countries, as a result of the increase of the level of internationalization of labor resources, as a result of an increase in the level of labor migration into the countries of the European Union;

- raising the level of external borrowing (eurocredit) countries to fill their own budgets and not always effectively use them, as a consequence of the growth of external debt and the reduction of liquidity of economic systems of countries;

- high energy intensity of production of industrial products, due to outdated technological processes for production equipment, resulting in an increase in the cost price and the final price of finished products and low level of competitiveness of products [1].

All these factors necessitate the internationalization and reengineering of business processes of industrial companies in order to increase the level of energy efficiency of production. In our opinion, there is an urgent need to reengineering the business processes of industrial enterprises, which consists in radical redevelopment of processes in the manufacturing sector, which is: implementation of reinvention of fixed assets; updating of production technologies of finished products; application of energy bench marking, which is aimed at reducing the level of energy costs of production, energy intensity of finished products on the basis of successful practices of enterprises of Ukraine and Lithuania; the

introduction of start-ups in the activities of the industrial enterprises of the two countries and the experience of the EU countries that contain measures of energy-efficient nature (for example, the introduction of renewable energy technologies based on the energy of the sun, wind, geothermal sources, land, on the production, resulting in lower production costs the final product); Implementation of best practices in the reengineering of business processes of Lithuanian enterprises aimed at increasing the level of energy efficiency of production, in the work of Ukrainian industrial enterprises, as well as the mechanism of feedback, when the experience of Ukrainian enterprises that implemented reengineering of business processes is implemented in work Lithuanian companies. All this causes the actualization of the subject of this research [1].

Many scholars are involved in scientific research dealing with the transformation of business processes in the enterprises' activity. Thus, the role of institutional transformations in the activities of financial organizations is considered in the work of such scientists as D'Espallier B., Goedecke J., Hudon M., Mersland R. [2].

During the assessment of the radical transformations of business processes, attention should be paid to the partaking of the state institutions. The scholar Abu-Shanab A. considered the practical aspects of state regulation of the manufacturing companies reengineering [3].

The mechanisms of business processes transformation at the manufacturing companies in the energy sector and the methods for their assessment were proposed by Sotnyk I., who also explored the challenges of energy enterprises' functioning and the ways of their solution [4].

The study of technological transformations and their impact on the work of companies in the countries is also significant. These aspects are attended in the research of the

scientists: Dev N., Neetu A. [5]; Lorentz A., Ciarli T., Savona M., Valente M. [6].

Another important aspect in shaping the concept of technological change is the formation of an effective management of innovations in the course of radical transformations. Scientists Oliinyk V., Kozmenko O., Weibe I., Kozmenko S., carried out research of processes of innovation management at the level of production in the work of the enterprise [7].

Scientists Kharlamova H., Stavytskyy A., Zarotiadis G. carried out the discussion of the impact of technological changes on the imbalance of EU companies' revenues [8].

Gassot Y. investigated the management of financial transformations in the implementation of e-business innovations in the work of country companies [9].

An important role in improving the efficiency of economic activities of industrial enterprises is an introduction of the re-engineering of business processes as an element of the ongoing transformational changes in the business processes at the enterprise. Hrabal M. carried out the research of managerial accounting of the process-oriented activity, which improved the process of estimating the effectiveness of the reengineering measures in the business structures' activity [10].

Scientists Shevchenko T., Danko Y., Krasnorutskyy O. studied the transformational changes in the natural management, namely the waste management in the activity of economic agents of the EU countries [11].

Based on the analyzed work of economists, it should be noted that among the main shortcomings in the study of internationalization and reengineering of business processes of enterprises should be underestimated the study of energy efficiency of production in the system of business processes reengineering of companies in the conditions of internationalization at the project level, because this parameter

can significantly affect the overall performance of industrial companies and the formation of competitive prices of industrial products in the domestic and foreign markets.

Given the relevance of the implementation of internationalization and reengineering of business processes of industrial companies as part of improving energy efficiency, it is necessary to note the following blocks of research, which can be stolen as the basis of a joint Ukrainian-Lithuanian project.

Block 1. Research of the theoretical and methodological basis of internationalization and reengineering of business processes of industrial enterprises in the context of increasing the level of energy efficiency of production. Block 2. Improvement of organizational and economic provision of internationalization and reengineering of business processes of industrial companies aimed at increasing the level of energy efficiency of production. Block 3. Methodological support of internationalization and reengineering of business processes of industrial enterprises in the context of increasing the level of energy efficiency of production. Block 4. Concept of a forward-looking growth in the management of transformations (reengineering) of business processes of industrial enterprises in the conditions of internationalization. Block 5. Institutional support for internationalization and reengineering of business processes of industrial enterprises as a component of increasing the level of energy efficiency of production. Block 6. Scientific and applied principles of internationalization and reengineering of business processes of industrial enterprises as a component of increasing the level of energy efficiency of production [12].

The expected results of the implementation of the joint Ukrainian-Lithuanian project should include the following:

- comparative statistical analysis of the work of industrial enterprises of Lithuania and Ukraine, taking into account the research of energy dependence of production of both countries;

- formation of prerequisites for the introduction of internationalization and reengineering of business processes of manufacturing companies in Ukraine and Lithuania, including the introduction of energy efficient technologies in industry, which makes it possible to understand the necessity of reengineering business processes of industrial companies in the conditions of internationalization;

- improvement of the theoretical positions of internationalization and reengineering of business processes of industrial companies, which is to improve the conceptual apparatus and classification marks of internationalization and reengineering of business processes of production activity in the field of energy saving, which enables to systematize the theoretical basis of internationalization and management of changes in the work of manufacturing enterprises;

- improvement of the organizational and economic mechanism of internationalization and reengineering of business processes of manufacturing companies, which enables to determine effective mechanisms of transformation of business processes of enterprises in the field of energy efficiency of production;

- formation of mechanisms of private partnership between countries on implementation of projects of internationalization and reengineering of business processes of manufacturing companies, their intergovernmental partnership in the field of energy efficiency of production, which promotes the establishment of effective relations between Lithuania and Ukraine in the industrial sphere;

- improvement of the risk management system for the introduction of energy efficient technologies in the work of Lithuanian and Ukrainian industrial enterprises, which promotes the formation of effective risk management methods in the course of reengineering business processes of industrial

companies in the conditions of internationalization of production;

- improvement of the system of methods for assessing the effectiveness of internationalization and reengineering of business processes of industrial enterprises, which makes it possible to carry out a qualitative assessment of the effectiveness of changes in the work of Ukrainian and Lithuanian enterprises;

- improvement of the process of reengineering the business processes of industrial companies, based on the concept of cutting-edge growth and benchmarking (transfer of experience of Lithuanian enterprises to the work of Ukrainian industrial companies), which enables to introduce benchmarking technologies in practice and increase efficiency in the energy and other spheres of the enterprises;

- improvement of the criterial basis of the necessity and effectiveness of realization of reengineering of business processes of industrial enterprises taking into account the experience of work in Ukraine and Lithuania, which enables to make a qualitative management decision on conducting reengineering of business processes of industrial companies;

- formation of conceptual foundations of internationalization and reengineering of business processes under the innovative development of industrial enterprises, which includes the experience of leading innovation companies in Lithuania and Ukraine and the introduction of this experience in the work of other manufacturing enterprises of both countries on the basis of benchmarking;

- improvement of approaches (cost, profitable, market) to energy efficiency of Lithuanian and Ukrainian enterprises, which enables to determine the direction of valuation of business in the course of reengineering, reengineering of business processes of enterprises in internationalization in the energy-efficient sphere;

- formation of effective organizational and economic support of the interstate partnership between Ukraine and Lithuania in the field of management of changes in business processes in the work of industrial enterprises, resulting in an increase in the level of energy efficient production of both countries;

- development of investment attractiveness of industrial enterprises of Ukraine and Lithuania on the basis of development of interstate cooperation programs in the industrial sphere (aerospace, aerospace, engineering), which will allow to raise the level of investment attractiveness of industrial enterprises of both countries for potential and real investors;

- applied testing of the proposed theoretical and methodological support for the internationalization and reengineering of business processes of industrial companies as a component of raising the level of energy-efficient production.

Also, to justify the project, it is worthwhile pointing out the types of effects that will be gained. Economic effect. The formation of the methodological basis for internationalization and reengineering of business processes of industrial companies, which is aimed at reducing the cost of production of final products, as a result of the introduction of energy saving technologies, as well as reduction of production costs can be achieved as a result of the introduction of a horizontal (process-oriented) management structure, as a result of reduced administrative and overhead costs of production. The social effect is the creation of new jobs during the implementation of the Ukrainian-Lithuanian project on the one hand, and the optimization of labor resources, which consists of internal and external rotation of personnel at enterprises in implementing internationalization and reengineering of business processes. The ecological effect is to reduce environmental damage in the reengineering of business processes of industrial companies as



a result of an increase in the level of compliance with the emission standards of enterprises emission standards, which are regulated in the European Union.

In conclusion the results of this research will contribute to further progress in the implementation of the Association Agreement between Ukraine and the EU and in addressing energy consumption in industry [13].

After the project implementation, it is planned to continue providing methodological support both in Lithuania and in Ukraine related to the dissemination of best practices.

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