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THE EFFECT OF GLOBALIZATION FACTORS ON THE SELECTION OF MANAGEMENT TECHNOLOGIES

Abstract. The influence of globalization trends on the choice of management technologies with the consideration of both objective factors of global progress and subjective obstacles and determinants of modern development at domestic industrial enterprises is researched. Emphasis was placed on the activities of enterprises of the oil and gas complex. The modern management technologies are analyzed, which allow to solve modern problems and are based on modern achievements of management science. It is highlighted that adaptation to modern market relations in the energy sector provides the activation of relevant areas of activity and the use of appropriate modern management technologies, for example, Benchmarking, BSC, business process reengineerin, Supply Chain Management, Outsourcing, Consumer Segmentation, Mission and Vision Formation, Cost Optimization, CRM, Budgeting, Strategic Planning, Strategic Alliances, Mergers and Acquisitions, Knowledge Management, Key Competences, Human Resources Management Concept, TQM, Change Management, Satisfaction and Loyalty Management, Scenario planning, Innovation; Analytical activity.

Key words: globalization trends, management technologies, industrial enterprises, oil and gas complex

Problem statement

Modern management technologies are based on a set of forms, methods, methodologies and practical experience of solving issues directed to the development, adoptation and implemention of effective management decisions. In turn, the choice of management technology requires taking into account the current trends of development, in particular the challenges of globalization, based on such determinants as scientific and technological progress, competitiveness, legislation, strategic documents of the country's development as well as industry and individual enterprise's development.

The professionally prepared decision taking into account the relevant management technology increases the possibility of achieving the effectiveness of the activity. The technologies of management developed today allow to make decisions in various fields of activity. However, the choice of management technologies requires taking into account not only an adequate set of resource support and operations as well as the integration of various elements of the management process, but also a system of rules and procedures that regulate their use and interaction to achieve their goals. This approach allows to take into account the influence of internal and external environment, management style, communication processes, the complex of the administrative and economic instruments operating at the enterprise implementing of the goals and objectives for enterprise development.

In the light of changes that accompany the activities of the oil and gas industry today, an important issue is the study of the impact of globalization on the choice of management technologies, which will take into account the current challenges of development and select

exactly those instruments that are in line with the situation in the industry.

Analysis of recent research and publications

The questions of globalization are widely covered in the writings of foreign and domestic scientists, in particular Z. Bauman, Z. Brzezinski, D. Lukyanov, A. Halchinsky, V. Voronkova, O. Bilorus, M. Zgurovsky [1–7]. A wide range of problems of the development of the industry are considered in the writings of Ye. Kryzhanivskyi, V. Petrenko, O. Dzoba, L. Goral, I. Chukayeva [8–10]. The study of management technologies is devoted to the works of V. Verba, A. Ustenko, V. Lesik [11–13].

Familiarization with literary sources allowed us to conclude that much attention has been devoted to issues that highlight some aspects of the topic of this study. Taking into account such peculiarities as the transformation processes in the oil and gas industry, the scale of the changes due to the political and economic situation in the country, the strategic importance of the tasks in the field of energy security, energy efficiency, the competitiveness of the Ukrainian economy, it is important to consider the current direction of research in modern management technologies implementation. This process is based on consideration modern trends in development and those objective changes that are caused by the processes of globalization.

Research objective

The purpose of this publication is to study the impact of globalization on the choice of management technology for domestic companies, taking into account both objective factors of global progress and subjective obstacles and determinants of modern development nowadays.

Research material

Making and implementation of management decisions in the conditions of European integration processes and globalization trends requires awareness and taking into account the peculiarities of international management experience. In the conditions of world economic, political and cultural integration and unification, managers must take into account the effects of globalization, which are linked to the international division of labor, global-scale migration, human and productive resources, standardization of legislation, economic and technical processes, and convergence of cultures of different countries. As a result of globalization, the world becomes more connected and dependent on all its subjects. There is an increase of the number of common problems for groups of states as well as the number and types of integrated entities [14].

All of this requires the use of modern management technologies that will allow to solve the problems that are actual in time and are based on the contemporary development achievements. In particular, the following main trends related to globalization are highlighted and are needed to be taken into account in the process of implementation of management technologies in the domestic practice of enterprises of the oil and gas complex.

Science and technology: the development of the Internet and other components of the computer, information technology, as well as GPS; the development of production technologies that allow to use the alternative energy sources, the production of substitute products of natural resources, and save and effectively use of the planet resources, reduce the negative technogenic impact, – these are challenges of the domestic enterprises due to new challenges of development through the activation of innovation and investment activities. The introduction of international quality management systems, adherence to international standards, and production of competitive products could be realized not only on local, regional and national markets, but also on international ones. Modern information technologies enable the implementation of global international agreements, the transfer of technologies, which expands the possibilities of passing through national borders, accelerates the pace of these agreements implementation and the integration of domestic enterprises into the international division of labor.

As a result of the implementation of the above-mentioned provisions, there is an increase in the integration and interconnection of the activities of sectoral enterprises. Is is concerning to the implementation of the provisions of international legislation in the energy sector of the economy as well as to the covering of all spheres of economic life, including the exchange of goods and services

across national borders through trade and joint activities, ending with complex organizational changes that accompany the processes of reforming the domestic fuel and energy complex.

Management: the management of modern production and the commercial sphere requires the consideration of both national and international regulations, familiarization and participation in the work of international and transnational institutes, taking into account the experience of working in international companies. The reform of the domestic fuel and energy complex requires appropriate changes in the corporate governance, in particular through the implementation of international principles of corporate governance.

Demographic trends: today we have tendencies of population declining in developed countries, the increasing of its number in developing countries, activation of migration processes. Such tendencies require following:

– a balanced policy of personnel management at the enterprise;

– reducing the dynamics of migration of highly skilled specialists;

– introduction of modern technologies of personnel hiring, motivation;

– increase of productivity at existing enterprises;

– introduction of modern training techniques and advanced training of both the management and executive staff of branch enterprises.

These trends are usually interdependent and can not be considered separately. The development of science and technology leads to the intensification of production processes, international co-operation, technology transfer, international technical cooperation and the creation of integration organizational management structures. The implementation of these changes requires the following:

– highly qualified personnel,

– an appropriate policy of interest and encouragement for implementation of the necessary changes at the domestic enterprises,

– the reducing of specialists outflow to the developed countries.

In addition, advances in science and technology can have a significant impact on the development of society, reducing unemployment, increasing the welfare of the population, increasing the competitiveness of national production and the economy as a whole. Along with this, the spread of these trends within the national economy may lead to a number of problems related to the need of national market protection on the basis of protectionism, compliance with the requirements and rules of international law and standards, the intensification of competition from import analogues, with which is difficult to compete for national producer.

It should be noted that the management activity in modern conditions is intended to focus the efforts of managers at each level of management on the issues of maximizing use and strengthening the strengths and capabilities of domestic industrial enterprises to eliminate and overcome the weaknesses of their activities and minimize the threats and risks associated with manifestation trends of global development. The inherent knowledge of management science can adapt modern management technologies to the current trends of globalization and achieve goals with the necessary efficiency.

Currently, the most well-known and commonly used in foreign practice are the following management technologies: BSC, benchmarking, analytical activity, business process reengineering, change management, key competencies, CRM, customer segmentation, knowledge management, HR management, mergers and acquisitions, mission formation and vision, innovation, outsourcing, price optimization, satisfaction and loyalty management, scenario planning, brand management, strategic alliances, strategic planning, supply chain management, TQM and budgeting [8].

However, according to studies conducted by domestic scientists, not all of these management technologies have been widely used in domestic practice. In particular, the most commonly used are budgeting, strategic planning, consumer segmentation, key competencies, knowledge management, and mission formation. Consequently, there is an understanding and interest of the leadership of domestic enterprises in the application of managerial technologies for solving the problems of modern development, despite the fact that most

of the technologies mentioned are not well-known and under-studied.

In Fig. 1 the key tasks of the oil and gas industry development are presented, for which it is proposed to consider modern technologies of management.

One of the global problems of our time is the lack of energy resources. Power-consuming countries are powerful states that dictate the conditions for their potential consumers. In such circumstances, energy policy should be formed on the basis of the principle of energy security. The dependence of energy security on the specific factors of its provision can be represented by the formula formed on the basis of the source [15]:

$$E_s \leftrightarrow E_{ef} + E_{ow} + D_m + R_s + I_{eu}, \quad (1)$$

where: E_s – energy security; E_{ef} – energy saving and energy efficiency; E_{own} – own energy resources (coal, natural gas, oil, biomass + other renewable energy sources); D_{im} – import diversification; R_s – strategic reserves; I_{eu} – Integration into the EU energy space (interconnected and synchronized energy networks).

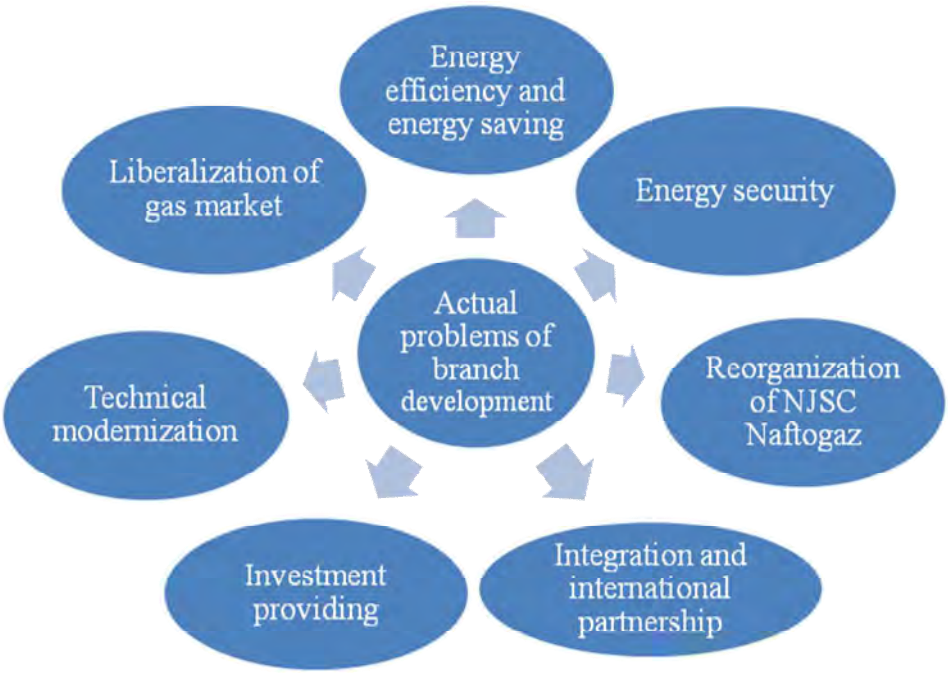

Fig. 1. Issue of the first-rate solution for the development of the oil and gas industry (formulated by the authors).

In Ukraine today all the factors of the given formula are relevant. Considerable attention is paid to the issue of reducing gas consumption. A big role is assigned to the issue of diversification of energy resources. Today, the gas shortage in Ukraine is being replenished at the expense of physical reverse flows that relate to the import of natural gas from the West, that is, the reverse direction of gas flow in relation to the existing pipelines projected at the initial stage. Reverse flows of gas to Ukraine are from Poland, Slovakia, Hungary, Norway. Undoubtedly, the search for diversified sources of energy resources supply is an important step towards increasing Ukraine's economic and political security, considered that Ukraine has been supplying more than half of imported gas to Russia since recently. Activities in this direction should be continued, since, according to experts, energy supply solutions should provide Ukraine with imports of one source of not more than one third, ie 15–20 billion m^3, and taking into account the payment for transit of Russian gas, it is 10–15 billion m^3 [16].

The potential of diversification expands the development of unconventional sources of gas supply, in particular liquefied gas, as well as the extraction of shale gas in Ukraine.

It should be noted that the energy policy of Ukraine is harmonized with the requirements of the EU energy space. According to the Third Energy

Package, diversification of energy sources will lead to the emergence of a competitive gas market in Ukraine, which will operate according to the same principle as in the EU. That is, every consumer will have the opportunity to choose a supplier, and each supplier will be able to choose a circle of consumers.

Implementation of the principles of energy security policy at the enterprise level requires taking into account the world experience in solving this problem. Economic development of enterprises, their strategic orientation to energy independence, energy efficiency, choice of models of energy security management that are in line with the life cycle, the use of accounting and control of the use of scarce resources - this is an incomplete list of management technologies that are appropriate for enterprises in the current environment.

The current issue is the choice of management technologies based on a combination of consistent, interrelated organizational, informational, computational and computational and other operations and procedures in the process of managing functions. Implementation of modern technologies for managing economic security will allow the following tasks to be carried out:

– monitoring, forecasting, timely detection and elimination of threats to the security of enterprises;

– promptly identify the causes and conditions that contribute to causing financial and material damage, violation of normal functioning and development;

– will contribute to the formation of a mechanism and conditions for prompt response to a threat to security and the appearance of negative trends in the functioning of business entities;

– will provide substantiation and formation of the organizational system of integrated security of business entities;

– facilitate the effective elimination of personnel threats and encroachment upon the resources of enterprises in the application of legal, organizational and engineering-technical measures and means to achieve the required level of security;

– will create effective mechanisms for interaction of state structures with economic entities in matters of security;

– will contribute to the creation of a system of training, retraining and advanced training of personnel of business entities, as well as the study and implementation of positive experience in the field of corporate security acquired in the Countries of the Near and Far abroad.

It should be noted that one of the directions of implementation of energy security policy is solving the problem of energy efficiency that can not be achieved only by measures of macroeconomic regulation by setting prices for energy consumption, diversifying sources of supply, and public financing of energy efficiency programs. Despite the fact that individual companies can not control energy prices, influence government policies in the field of energy efficiency or the global economy, they can choose ways to manage energy efficiency. Enhancement of energy resource management can ensure profitability of an enterprise by maximizing the use of sources of traditional energy and renewable energy assets, thereby reducing both the cost of energy and its consumption.

The reasons for low efficiency in the industrial sector, which account for 45 % of the total primary energy consumption, include the extremely high deterioration of production assets (at individual enterprises, up to 80 %), coupled with insufficient implementation of modern production technologies, as well as the lack of accounting devices and related automated systems in the industrial sector.

Thus, Ukraine has an urgent need for the transition to energy-efficient and environmentally friendly technologies, which include, among others, unconventional and renewable energy sources. It is possible to change the situation by conducting an appropriate energy policy, improving the regulatory framework and attracting investment in the development of unconventional and renewable energy sources on the basis of foreign experience. Of course, this process is not fast, but in order to ensure the future economic growth in Ukraine, its worthy place in the European community must now intensify the solution to this pressing problem. For example, the Energy Strategy of the European Union is characterized by a focus on a 20 % reduction in primary energy consumption by 2020. The proposed measures aim

at increasing energy efficiency at all stages of the "energy chain': production, transformation, distribution and end-use [17].

Particular attention should be paid to the fact that Ukraine has a significant potential for energy saving, in particular at the level of 47.6 % of current energy consumption. Implementation of modern technologies will reduce energy consumption by almost half [18].

The harmonization of the technical conditions of the branch enterprises involves the modernization of technology and production technologies, as well as the introduction of innovative technical re-equipment projects. The desire and need to change the state of the industry requires the latest technological approaches to the transportation of gas. In particular, a real alternative to underwater pipelines is the technology of marine gas transport by compressed vehicles (CNG technology). Today, the very technology of CNG, as well as special vessels for the transport of gas in a compressed state, are under development. However, in the current situation, which is characterized by a significant change in the world situation, the depletion of the resources of deposits in traditional areas of natural gas production and the ever-increasing demand for energy in the main import markets, high energy prices, the use of new technologies for gas transport, in particular CNG technologies , became economically profitable [9]. Given the need to address the problem of delivering natural gas from the shelf of the Black and Azov Seas to the mainland of Ukraine, CNG technology is considered as promising for the transportation of gas from offshore fields, which requires further research on this area with the attraction of foreign investments for the practical implementation of CNG technology in Ukraine [19].

In today's conditions of the world economy globalization and Ukraine's accession to the European community, questions arise about the introduction of modern quality management systems at the enterprises of the oil and gas complex and, as a consequence, provided their competitiveness on the European and world markets. In connection with this, in parallel with the modernization of the production capacity of the gas transmission system, one of the priority directions of the branch enterprises's activities improvement is the introduction of modern approaches to the organization and operation of the enterprise management system, which are set out in the international standards ISO 9001, ISO 14001 and OHSAS 18001. Efficiency of sectoral enterprises and their investment attractiveness, as well as the quality of partnerships with contractors and suppliers directly are depended on the compliance of management systems requirements with international standards. The existence of a quality management system that meets the special requirements for the oil, petrochemical and gas industry, allows suppliers of products and services to gain preference in bidding procedures, to ensure reliable and continuous work of the industry. In this regard, the development of national management standards in the oil and gas industry involves the introduction of quality management systems at its enterprises in accordance with the standard DSTU ISO / TS 29001: 2010 [20].

Thus, the technical modernization of branch enterprises is associated with innovative development. This priority direction of development of the industry is determined by the objective necessity of a faster development of the domestic economy and the present state of domestic enterprises, which requires radical changes taking into account dependence "need – potential (opportunities) – solutions". The main directions of innovation development in the industry today are:

– at the macro level – the realization of long-term scientific and technological policy focused on the innovation achievements and its financial support at the expense of external and internal sources;

– at the micro level – the implementation of strategic development programs, the involvement of investors, cooperation with partners, which would allow attracting of foreign direct investment in the innovative development.

However, for the maximum realization of this potential, investments are required. The investment supply of changes in the industry is the decisive driver of transformation. In addition to weak investment attractiveness, there are limitations on investment support for change. In particular, in contrast to the domestic energy

efficiency mechanism, which is more oriented towards regulatory and institutional instruments, in world practice, more attention is paid to the financial mechanism of energy efficiency, in particular, due to the follow instruments:

– development of strategies and target programs that define the methods and timeframes for achieving certain parameters of the efficiency of the fuel and energy resources use;

– tax regulation of supply and consumption of the fuel and energy resources;

– budget support and regulation of the process of increasing the efficiency of the use of energy resources in the economy;

– investment support for projects aimed at increasing the efficiency of the use of energy resources in the economy.

Experts point out that investments in the energy efficiency of the Ukrainian industry to the average European level are needed. It is summarized that today for 1000 dollars US of products in Ukraine it is used 0.55 tons of conventional fuel, while in the Czech Republic – 0.22 tons, in Romania – 0.19 tons, in Germany – 0.15 tons. It is summarized that in order to reduce energy expenditures by almost two times, Ukraine needs about $ 25 billion. US investment in energy efficiency and energy saving projects, and some expert's estimates reach even higher figures, in particular, $ 100 billion USA [21].

Investment support should primarily focus on the innovative development of the industry, including updating the material and technical base, the introduction of modern technologies for the extraction, transportation, storage of gas. To a large extent, the actization of investment activity depends on the formation of investment attractiveness of industry enterprises. It is advisable due to:

– focus on effective areas of improvement of investment attractiveness for strategically important and innovation-oriented activities;

– increase of competitiveness of domestic production;

– Improvement of investment management by controlling investment projects in pre-investment, during investment and after investment periods;

– analysis on justification of financial reliability of investment activity;

– avoid large-scale projects due to their low mobility to innovation;

– reduction of the period of implementation and realization of the investment project.

It should be noted that the trends of globalization also affected the changes in the natural gas market in Ukraine. So, in 2014, a new law on the natural gas market was started. In 2010, the Law "On the principles of functioning of the natural gas market" was adopted, in which certain elements of the gas market liberalization were laid. But in full measure, the legal signs of market liberalization are enshrined in the new law of Ukraine "On the Natural Gas Market", which introduced the basic principles of liberal functioning of the gas market. Their implementation requires the adoption of other legislative acts in accordance with its norms. In particular, the National Electricity and Electricity Regulatory Commission approved the Gas Transport Code and the Gas Distribution Code Code, which allowed partial application of the norms in force in the EU.

However, many issues remain unresolved and require further study and further implementation. Adoption of the said law creates preconditions for the development of market relations in the gas market, in particular, it introduces market mechanisms for the supply of natural gas, differentiates deliveries, attracts foreign traders to the market. However, state regulation in the gas market remains significant, in particular the emergence of new mechanisms for regulating supplies, which are seen as barriers to liberalization and free-market trade. Specialists distinguish the following positive features of the changes that have taken place on the market [22]:

– the main features of the new model of the Ukrainian gas market are formed;

– a significant part of the normative base are developed, which is being finalized during the implementation process;

– real competition in the segment of gas supply to industrial consumers began;

– a steady tendency towards a decrease in the share of the monopolist has begun – the number of foreign gas traders supplying (willing to supply) gas to Ukrainian companies has increased;

– the first subsidiaries of foreign gas traders are appeared – residents of Ukraine.

In addition, in September 2016, the Verkhovna Rada adopted two important normative acts: “On the National Commission that carries out state regulation in the fields of energy and utilities”, and amended the Law of Ukraine “On the Natural Gas Market” regarding the reduction of the maximum amount of insurance stock up to 10 % of monthly planned deliveries.

However, this is not enough for tangible changes in the industry. The following issues are required to be resolved: making all necessary changes to a number of laws of Ukraine; development of the necessary sub-legislative (normative) acts necessary for the implementation of the Law “On the Natural Gas Market’; settlement of the issue of financial guarantees for suppliers (traders) of natural gas to Ukraine.

The success of the implementation of the new model of the gas market depends on the changes taking place in the company of Naftogaz of Ukraine [23]. Today, Naftogaz has made and is doing a lot in the field of the oil and gas complex reforming. However, experts note that the issue of the introduction of a competitive gas market in the country is a public task, and its solution requires a controlling influence on the part of the state body on the one hand, and, on the other, the functioning of an independent controlling body. The adoption of the Regulator Act (NKREKP) provides for the functioning of a body that will protect the market from unauthorized by the law the interference with, both legislative and executive, as well as financial and industrial groups.

With the adoption of the cabinet of Ministers of Ukraine resolution No. 496 dated July 1, 2016, “On approval of the restructuring plan of Naftogaz Ukrainy”, a number of organizational changes are expected to implement the idea of distributing of the extraction, transportation, storage of gas in certain areas of activity in accordance with the Law “On the Natural Gas Market”. The outlined changes suggest a gradual, evolutionary development of the industry instead of revolutionary.

The promising development of the domestic fuel and energy complex is linked to the expansion of international cooperation and co-operation. And this requires bringing existing capacities to international standards. Today, the level and peculiarities of Ukraine's development impose significant restrictions on Ukraine's integration potential. In particular, the technical condition of a significant part of the equipment does not meet the requirements for their operation.

It should be noted that the directions and prospects of the international partnership are defined in the basic document of the development of the fuel and energy complex – in the Energy Strategy. The organizations formed at the macro and mega levels are the subjects of international economic relations and are aimed at promoting compliance with certain norms and principles of international activity, the fulfillment of certain functions that fall within their competence in the regulation of various spheres of activity in the energy sector.

It should be noted that the implementation of changes in the industry implies the willingness of the sectoral enterprises management and executives to ensure their implementation, which requires appropriate human resources [25]. In the context of globalization, the concept of human resources management, in particular such a factor of global development as social capital, is growing.

Here, the moral and psychological resource of economic development and growth is taken into consideration, which is characterized by: the property of self-expanding accumulation and self-reproduction; strengthening of all enterprises potential when using this component of human capital; his exhaustion in the case of non-use. In the conditions of intensification of globalization processes, social capital is responsible for the creation of communication networks that will facilitate the establishment of contacts, the formation of formal and informal groups outside the existing structure of the enterprise [26].

Conclusions

Thus, globalization as a process of integration of world economies imposes its impact on the development of industry and industry enterprises. The main consequence and defining condition of the development of enterprises in the conditions of globalization is the formation of competitive relations in the energy sector of the

economy, the use of the experience of developed countries in addressing key issues in the industry. Adaptation to modern market relations in the energy sector involves the activation of such areas of activity and the use of appropriate modern management technologies for this, in particular:

1) guaranteeing energy self-sufficiency by minimizing imports, developing its own resource base; development of renewable energy sources (RES); energy balance optimization; reduction of energy losses during transmission and distribution; improvement of accounting and payment discipline; creation of a strategic reserve; ensuring flexibility and interchangeability of fuels; security of energy infrastructure. The implementation of these activities is related to the application of such management technologies as benchmarking, BSC, business process reengineering; supply chain management, outsourcing;

2) the development of competitive and transparent markets for electricity, heat, gas, oil and petroleum products, and coal, taking into account the factor of external aggression. Management technologies are based on consumer segmentation, mission and vision formation, price optimization, CRM;

3) ensuring investment attractiveness through the use of the benefits of a partnership with the EU; ensuring the rule of law; improvement of the legislation regulating the activity of the energy sector. The implementation of these areas is ensured by technologies of budgeting, strategic planning, strategic alliances, mergers and acquisitions;

4) improvement of management, namely the transition from sector to functional management model, personnel training and scientific activity; public involvement. Management improvement requires the application of management technologies such as: knowledge management, key competencies, concept of personnel management, TQM, change management, satisfaction and loyalty management, scenario planning;

5) formation of an energy-efficient society at the expense of energy saving and energy efficiency, as well as formation of energy-efficient consciousness among citizens. Management technologies in this direction should include brand management; innovation; analytical activity.

Although the distribution of management technologies in accordance with the priorities of sectoral development in the context of globalization allows us to propose certain rules and procedures for coordinating the work of personnel under certain conditions to achieve development goals, but the potential of these technologies is much wider and can be applied in situations that correspond to their content.

Further research deserves a study of the world's history of the use of management technologies in solving modern problems of development and research of the industry enterprises readiness to implement the management technologies in their activities.

References

1. *Bauman Z. Globalization. (2008). Consequences for man and society, Kiev, 109 p.*
2. *Brzezinski Z. (2006). Choice: world domination or world leadership Kiev,203 p.*
3. *Belarus O., Vlasov V. (2010). Globalization – a new synthetic science, Herald NAS of Ukraine, No. 3, pp. 17–26. Available at: http://ftp.nas.gov.ua/*
4. *Lukyanenko D., Kolesov V., Kolot A., Stolyarchuk Y. and others (2013). Global economic development: trends, asymmetries, regulation: monograph, Kiev, 466 pp.*
5. *Voronkova V. (2009). Formation of post-classical paradigm of modern management in the conditions of globalization. Humanitarian bulletin of Zaporizhzhya State Engineering Academy, Issue. 38, pp. 13–29. Available at: http://nbuv.gov.ua*
6. *Zgurovsky M., Pakhomov Yu., Filippenko A. and others. (2010) Geoeconomic scenarios for development and Ukraine: Monograph, pp. 267.*
7. *Galchinsky A. (2009) Methodology of analysis of economic globalization: logic of renewal. Economy of Ukraine, No. 1 (566), pp. 4–18.*
8. *Modern technologies for improving the management efficiency of sectoral and regional economic systems: a collective monograph (2015), ed. V. Petrenko, A. Polyanska, 287 pp.*
9. *Dzoba O. Romashko O. (2012) Estimation of the level of diversification of natural gas supply in the countries of the European Union. Economic Journal-XXI. Scientific Journal, No. 7–8, pp. 37–40.*

10. *Goral L., Korol S. (2016). Formation and organization of the mechanism of management of investment-innovation activity of gas distribution enterprises: methodological aspect. Electronic scientific professional edition. Global and national problems of economy, Issue 9, pp. 278–283. Available at: http://global-national.in.ua*
11. *Ustenko A. (2002). Economical-organizational problems of informatization of management: Monograph, Ternopil, p. 85.*
12. *Lesik V., Grigorenko V. (2013). Approaches to the definition of the concept of "technology management", Economics of Development, No. 4 (68). Available at: http: //www.ed.ksue. edu.ua*
13. *Verba V. (2014). Evolution of Management Technologies as Reflection of the Enterprise Development Problems. Strategy of Economic Development of Ukraine, No. 34, pp. 148–156.*
14. *World Economic and Social Survey 2014/2015. Learning from national policies supporting MDG implementation. Available at: http://www.un. org/en/development/desa/policy/wess/wess_ archive/2015 wess_ full_en.pdf.*
15. *Project "New Energy Strategy of Ukraine: Security, Energy Efficiency, Competition". (2015). Razumkov Center and National Institute for Strategic Studies under the President of Ukraine. Available at: http://tpt.tef.kpi.ua/images/filestore/ Energy.pdf.*
16. *Diversification projects in the energy sector of Ukraine: state, problems and ways of their realization (2009). National Security and Defense. Ukrainian Center for Economic and Political Studies named after O. Razumkov, No. 6, pp. 2–53.*
17. *2020 vision: Saving our energy. Available at: http://ec.europa.eu/energy/efficiency/index_en .htm*
18. *Priority directions of state policy in the field of energy security. Analytical report. (2012). National Institute for Strategic Studies, p. 3. Available at: http://www.niss.gov.ua/*
19. *Prospects for the use of CNG technology in Ukraine. Scientific and Technical Meeting of NJSC Naftogaz of Ukraine. Available at: http://nung.edu.ua*
20. *DSTU ISO / TS 29001: 2010. Quality management systems. Requirements for organizations supplying products and services in the oil, petrochemical and gas industries (ISO / TS 29001: 2010, IDT).*
21. *Ukrainian industry needs $ 25 billion for energy efficiency. Available at: http://news.finance.ua/*
22. *Eremenko A. (2016). Creation of the gas market: imitation or reality? Available at: http://gazeta.dt.ua/energy_market*
23. *Official site of NJSC Naftogaz of Ukraine. Available at: http://www.naftogaz.com/*
24. *Kis' S. Scientific Fundamentals of Intellectualization of Enterprises Activity. (2016). Abstract for obtaining the degree of Doctor of Economics, Ivano-Frankivsk, 40 p.*
25. *Revtyuk Ye. Scientific and methodological approaches to the management of human capital of enterprises. (2016). Abstract for obtaining the scientific degree of the doctor of economic sciences, Ivano-Frankivsk, 40 p.*