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## FEATURES OF REGION INDUSTRIAL SECTOR MODERNIZATION ON THE CURRENT LEVEL OF MODERN SOCIETY DEVELOPMENT

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*Summary. The article defines six stages of society's technological development. The process of modernization of industry in a region, i.e. the transition from a lower to a higher stage is researched. This process requires an efficient industrial structure, the characteristics of which is its innovativeness and competitiveness. It was determined that the*

*successful modernization of the industrial complex needs quality structural changes – transformation of the internal structure, establishment of relationships between the elements and effective laws to regulate their interactions. The importance of institutional transformation and the changing role of a man are taken into account.*

**Key words:** *technological order, industrial structure, innovativeness, competitiveness, structural changes, institutional transformation.*

The article aims to identify the factors affecting the modernization of a region and its transition to the sixth technological order.

Ukraine faces the challenge of implementation of two interrelated problems: technological modernization of the economy and smoothing of regional development differences. Modernization of economy of a country and its regions is an important factor for enhancing the competitiveness at the international level.

Therefore, under modern conditions the so-called «intellectual leadership» helps a company to maintain its status on a market, it means that the important factor is the changing role of a man in a system. A structural modernization of an industry of a country and its regions, institutional reforms facilitate the transition to a higher stage of modernization.

During the past centuries six technological orders characterized by development or inventions have appeared. Modern stage of Ukrainian industry development is characterized by coexistence of several major technological orders (third, fourth, fifth, elements of the sixth), located in different life cycle phases: the third order is in the phase of crisis, the fourth one is in the maturity phase, the fifth – in the growth phase, the sixth – in the phase of formation.

For a successful transition from one order to another the efficient structure of the industry is of great

importance – it is a feature of its modernization. Among characteristics of this structure its innovativeness and competitiveness are highlighted.

Adoption of innovations is a basis for higher profits and development of new markets for business and a way to achieve state economic growth and competitiveness for the state authorities.

The competitiveness of the industry is determined by the competitiveness of branches, companies, products and technologies. Practically the only and the most important reason for the low competitiveness is the linearity character of companies evolutionary development, that has finished with the XX century. Non-linear innovations and creative solutions are competitive advantages of companies of the XXI century.

In this investigation, an analysis of structural shifts involves consideration of an industry as an element of integral reproduction system in the functioning process of which there is a balance between production, distribution, circulation and consumption of resources. Under this mechanism branches perform specific balancing functions associated with a combination of public needs and resource capabilities of reproduction system: support of resource, technological and financial balance, reserves of reproduction increasing due to the preservation of industrial, technological and staff potential under the

conditions of large-scale recession. Extent of structural transformations depends on a period of accumulation of contradictions within the reproduction system. The quality of the structural changes is an indicator of social and economic progress direction.

The direction of socio-economic progress can be determined on the basis of separation of social development on the following stages: pre-industrial (agrarian), industrial and postindustrial (informational). In pre-industrial society main productive resource is raw material, in industrial – energy and in post-industrial – information. Post-industrial society is characterized as “economy of knowledge”, “innovative”, “information” economy, its industry structure is determined by a large share of high-tech industries branches. The attractiveness of such facilities can be explained by the following reasons. Firstly, the share of products of high and medium technology exports in comparison with the share of raw materials and labor-intensive products has increased considerably, the share of the industrialized countries also has increased. Secondly, mastering the production of high-tech products (in such industries as electronics, communications and computer science) leads to increasing of production productivity and efficiency associated with technological progress and prices reduction. Thirdly, the production in high and medium technology branches (computers, special tools, pharmaceuticals, electronics and so on) has the most internationalized character and their technological orientation facilitates exports. Fourthly, high-tech industries have a high profitability. Experts note that innovative firms have a rate of return that exceeds average indicators. Therefore, today the main tasks of structural modernization are: 1) qualitative upgrade of technologies, creation of long-term growth sources; 2) redistribution of resources in favor of economy consumer sector development.

Thus, modernization of industrial complex is characterized not only by change of technological orders (technological modernization), but also by progressive, stipulated by growth of innovativeness and competitiveness changes in industry structure (structural modernization). In addition, a permanent transition to innovation economy is contributed by institutional transformations – creation of a new legislative framework, new innovative forms of business organization (techno parks, etc) and new institutions arising as a reaction to market regulation defects overcoming [6].

However, institutional changes are not indicator but mechanism or external factor for the development of modernization processes in industry. They accompany all processes in economy and industry. That's why to distinguish them as distinctive features of this process is incorrect.

Institutional transformations are associated with changes of a man role in a process of industrial development. Main modernization resource is treatment to a man as a key inexhaustible resource, capable to generate new knowledge and information.

It was grounded that the features of industrial complex modernization on the modern stage of society development with attention to a man role are organizational and managerial innovations: formation of business-type organizational behavior as a way to involve staff managerial capacities due to release of creative entrepreneurial activity, leaders' self-management, increase of management innovativeness and social responsibility.

According to the investigation results industrial complex modernization can be defined as the formation process of industry modern technological image, including technological and institutional transformations, caused by the change of man role, industry quality structure as well as change of technological orders. The efficiency of this process in industry is determined by current status and development potential of its separate sectors modernization.

Thus, industrial complex technological development is caused by timely technologies changes in accordance with market requirements and structural transformations efficiency. Efficient structure of industry is an important factor for the transition to the sixth level of technological order, which is characterized by the development of nano- and biotechnologies and other technological orientation industries. Its characteristics are innovativeness, which is determined by companies' innovative activity and competitiveness – the ability of these companies to compete on the international market. It was found out that constituent parts of industrial complex modernization are structural shifts, i.e. the transformation of system internal structure, relationships between its elements and laws governing these relations. So there is a need to improve the manageability through a correct direction of organizational capacity at all levels of innovative processes management to modernize the economy and innovation activity, reasonably defining vector of technological development.

## References

1. Hlazev S.Yu. (2009) **Mirovoj ehkonomicheskiy krizis kak protsess smeny tekhnologicheskikh ukladov** [Global Economic Crisis as a Process of Technological Orders Change]. **Voprosy ehkonomiki**, Vol. 3, 26–39.
2. Fedulova L.I., Bazhal Yu.M., Shovkun I.A. (2009) Innovatsiino-tekhnologichnyi rozvytok Ukrainy: stan, problemy, stratehichni perspektyvy: analitychni materialy do Parlamentskykh slukhan “Stratehiia innovatsiinoho rozvytku Ukrainy na 2010-2020 roky v umovakh hlobalizatsiinykh vyklykiv” [Innovative and Technological Development of Ukraine: State, Problems and Strategic Perspectives: Analytical Materials of Parliamentary Hearings “Strategy of Innovative Development of Ukraine for 2010-2020 under Conditions of Globalization Challenges”]. Derzhavna ustanova “Instytut ekonomiky ta prohozuvannia NAN Ukrainy”. K.
3. Porter M.E. (2006) Konkurentnaja stratehija: metodyka analiza otraslejj i konkurentov [Competitive Strategy: A Methodology for Analyzing Industries and Competitors]. M., 2006.
4. Shpotov B.O. (2001) Sovremennykh teoriyakh konkurentnykh prejmushchestv i otraslevoho lidirovaniya [On Modern Theories of Competitive Advantages and Industry Leading]. Problemy teorii i praktyky. Vol. 3. 50–55.
5. Bila S. (2000) Derzhavne upravlinnia strukturno-innovatsiynym zrushenniam v ekonomitsi Ukrainy [State Management of Structural and Innovative Changes in Economy of Ukraine]. Visnyk Ukrainskoi Akademii derzhavnoho upravlinnia pry Prezydentovi Ukrainy. Vol. 4, 54.
6. Heietsia V.M., Seminozhenka V.P., Kvasniuka B.Ye. (2007) Stratehichni vyklyky XXI stolittia suspilstvu ta ekonomitsi Ukrainy [Strategic Challenges of the XXI Century to Society and Economy of Ukraine]. K.: Feniks.