

Strategic controlling of innovation activities of enterprises in the changing technological structure of economy

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Summary. The article deals with the theoretical and methodical statements as regards organization of strategic controlling of innovation activities of enterprises as well as with controlling expediency in the management of the enterprises, with prerequisites in forming the concept of controlling in the company innovation activity management.

Key words. Innovation activity, structure, management, controlling.

INTRODUCTION

Modern trends in management of enterprises are related to weak predictability of changes in the aggressive environment and to continuous development of innovations in all spheres of society. Focus on innovative type of development becomes one of the main conditions of sustainable operation and maintenance of the necessary level of competitiveness of individual enterprises, industries and region as a whole. To achieve this goal, knowledge of the flow of separate innovation processes is required.

Relevance of research of theories, methodologies and concepts of strategic controlling of innovation activities is growing in the course of forming information economy which changes the nature of accounting processes. Dominance of horizontal management, separation of information flows from physical flows, fragmentation of the value chain and multilevel processing and the use of information is characteristic for it. Systematic, comprehensive approach to the management of innovation activity of the enterprise arises out from the need to create and analyze certain information base of innovation processes and environment, to use the appropriate

paradigm of innovation management and to create on this basis the system of strategic controlling of innovation activity of industrial enterprises adequate to modern requirements. It is necessary to develop the concept of strategic controlling of innovation activity of industrial enterprises. The need for the formation of approaches to strategic controlling of innovation activity of industrial enterprises leads to relevance of publication.

OBJECTS AND PROBLEMS

The basis of success in today's business is the development, implementation and commercialization of innovations, their forecasting, organization and management of strategic financial accounting, control, audit and analysis of innovation processes effectiveness to ensure the growth of the national product and the increase of competitiveness of domestic enterprises. In modern conditions strategic management requires modifying the existing organization and methodology of financial and strategic accounting, analysis, control and audit of innovation. Strategic management provides decision-making for a long term. Strategic controlling of innovation activity is paramount because the enterprise strategy is primarily associated with innovative solutions. Traditional accounting records the facts and phenomena of economic activity that occurred in previous periods, moreover, standards and accounting rules do not allow to take into account the processes of discounted cash flows and to use different kinds of

prices, etc. Consequently, using traditional accounting, it is impossible to give the accurate forecast of events that can occur in the future.

ANALYSIS OF PUBLICATIONS IN RELATION TO RESEARCH OBJECT

A lot of different questions about creating of marketing [Maksimova, Shapran 2010., Zhdanova 2010], crisis management [Nadyon, Dyachenko 2010, Ramazanov 2010], national [Tretyak, Kurilov 2010, Voronkova 2010], dynamic [Voronkov 2010], intellectual [Voronkova 2010] and financial [Zhytnyy 2010] conditions for enterprises functioning and development have been considered lately in scientific publications. The research of development problems of microeconomics and regional production systems on the basis of the innovative determinants activization found its reflection in the works of many Ukrainian scientists [O.I. Amosh, V.P. Babych, V.M. Geets, S.M. Ilyashenko, L.I. Fedulov, O.V. Knyaz]. But the information and organizational-economic aspects of innovative development support problem have been left unsolved. The development management must be aimed on the dynamic aggregate of interdependent administrative processes directed above all things at the search of the internal and external reserves of economical growing and development. As known from the classics of the economic cycle theories, one of the basic principles that provides microsystem development, is providing of possibility of transition from the stage of higher level of development within the framework of one period of cycle (maturity phase) to the phase of establishment with high-quality new parameters of the next level, passing the phase of recession and crisis. Providing of effective management of enterprise development must be accompanied by the permanent strategic diagnostics of activity that allows us to define possibilities of enterprise in external surroundings. Exactly on the basis of strategic diagnostics an enterprise can elaborate or correct the external activity strategy that will determine its development. For enterprise development it is necessary to create terms for adoption of innovative, organizational, economic measures that allow us to pass the phase of the next level becoming.

Recently many different issues related to creation of marketing, anti-crisis, national, dynamic, intellectual and financial conditions for the operation and development of enterprises have

been considered in the latest publications. The problem of development of microeconomic and regional production systems based on activation of innovative factors have been reflected in the works of local scientists such as O.I. Amosha, V.P. Babych, V.M. Geets, S.M. Ilyashenko, L.I. Fedulova, O.V. Knyaz. Scientific works give variety of views, approaches, methods and concepts of financial management, financial control issues in the enterprise. This is also much discussed in many papers and chapters in the audit of financial and economical activity of enterprises. But today sufficient attention is not paid to the issue of organization of controlling of innovation activity in enterprises. In the studies mentioned above the nature, functions, tasks, stages of development, instrumental and information aspects of controlling, as well as functions and tasks of controllers that are functions of controlling service have been considered in details. However, the methodological and conceptual foundations of modern Controlling is not widely represented in the national literature. It is represented one-sided in our opinion.

RESULTS OF RESEARCH

Formation of the controlling concept in the enterprise innovation activity management takes place in terms of transition of Ukrainian economy to the new technological structure. The technological structure of the economy consists of technological sets that have got different functions and levels of processing resources. "Groups of technological sets related to each other with single-type technological chains which reproduce integrity" are called "technological structures" [Glazyev, 1993]. Technological structure is characterized by a single technical level of its production components coupled with vertical and horizontal flows of single-type resources based on the total resources of skilled labor, on the overall scientific and technical potential etc. The core of the technological structure forms a complex of basis sets of technologically interrelated industries. Components of technological structure are technological chains which cover technological sets of all processing resources levels, and close on the appropriate type of nonproductive consumption. This type, closing reproductive contour of technological structure, serves at the same time as a major source of its expansion that ensure recreation of labor resources as appropriate. Technological structure is developed within the

frames of the technological system that covers all the processing resources stages and the appropriate type of nonproductive consumption; all this forms macroeconomic reproduction system. That is to say that each technological structure is a self-replicating integrity. As a result the technical development of the economy can not develop otherwise than by succession of technological structure changes. The life cycle of each technological structure forms the content of the corresponding stage of technical and economic development.

Each technological structure is consistent with its dominant industry (in which great number of components, the core of the structure of totality of technologically related industries are concentrated). Their dynamics determines the development of appropriate technological structure. The field of "chemical and petrochemical industry" is the fourth technological structure. Although a significant part of the "core" of this structure remains outside these industries, through the synchronous development of the components the technological structure of productions, the activities of development of the chemical and petrochemical industry allow us to get a rough idea of the dynamic of resources reallocation in favor of the fourth technological structure. Currently, despite the relative immaturity of the fourth technological structure, the outflow of resources from its reproduction circuit begins. This might happen because of the problems of material and technical supply resulting from the increase of economic expenditures because of the technological mixed economy and formation of the fifth technological structure. At the same time production of the fifth technological structure constitutes a small part in the technological structure of the economy. But as the further development of the fifth structure occurs, each percentage of its increase will be achieved only through more intensive redistribution of resources taken from the fourth and the third technological structures. Consequently, modern businesses operate in the environment that changes dynamically. The external environment becomes a constant source of new opportunities and risks that create complex situation. Business needs to find new theories that define the principles of management.

Enterprise innovative development is based on the set of interconnected elements, which facilitate the generation of new knowledge, manage their streams, distribute them. The efficiency of enterprise innovative activity is

determined by cooperation of basic acting persons of innovative process as element of the collective system of knowledge creation and use. The substantiation of direction of enterprise innovative development consists in elaboration and use of optimum economic criteria and choosing on their basis from the great number of alternative decisions. In that time, enterprise innovative development is the organizational, administrative and strategic question not only economic. As the factors of innovations management have a different nature (social, economic, technical, organizational, strategic), it is necessary to define the proper mechanisms of innovative development that is the forming basis of the complex mechanism of innovative development management. The specialized action mechanisms on the concrete constituents of productive forces and production relations must be a part of the complex mechanism of enterprise innovative development management.

The economic mechanism of innovative development includes the following elements: preparation and substantiation of plans of assortment and volume of output taking into account the existing limitations on material, financial, labour resources, sales volume, location of enterprise capacities, that provide production development; elaboration of enterprise development plans and substantiation of economic efficiency of innovative and investment projects of enterprise reconstruction, equipment modernizations and products renewal, distribution of profit to the funds of accumulation and consumption; choosing the most advantageous level of specialization and cooperation; systematic economic analysis of enterprise, forming of indices, that characterize enterprise activity, and determination of their quantitative size. The economic mechanism of enterprise operates under market influence at the expense of the competitive forming of price and demand for products of enterprise. Duration of productive forces reproductive cycle depends on speed of innovations distribution, also determined competition and situation at the markets of financial resources.

Enterprise management system must improve when technological structure of the economy changes. Today management problems in Ukraine are associated with marketing, organization of supply, scientific organization of production and labor. The modern economy management requires a mechanism that would help to modernize the organizational and information structure of the company. Definition of appropriate

stable activities not only nowadays but also in the future becomes urgent for enterprises. Constant monitoring of financial ratio and its analysis is a mandatory requirement while performing the management process in the company.

To implement basic management functions (planning, accounting, monitoring, analysis) the search of more effective ways is required, as methods, tools, prevailing classical management concepts do not give answers to all the questions concerning industrial enterprise management according to the nowadays requirements. The enterprise management system requires the mechanism that is able to evaluate management techniques that are in use, their relevance to the changing economic environment of the enterprise. Formation of information and analytical support of management decision making processes should be put into specially created units. Referring to the above mentioned researches the scientific term called "controlling" was made.

Taking into consideration terminology, "controlling" should be defined as a system of the enterprise economic management based on the achievement of the ultimate goal and planned performance. The basis of the given concept of the managed company system is the desire to ensure the effective functioning in the long term. In domestic conditions controlling increasingly acts as a system that ensures effective functioning of the enterprise aimed at profit optimization and harmonious relationship support with the environment.

Strategic controlling of innovation activity of industrial enterprises is considered as a set of tools aimed at reorientation of the management system from traditional to innovation approaches as well as creation of the information system of management decision support related to the planning and control of innovation activity on the basis of control data.

The enterprise management process is impossible without clear organization which forms the basis of management activity. Usually neither plans nor programs work without it. The totality of controlling functions has been specified by us by adding innovative function to its main functions; it consists in informational, organizational and economic maintenance of innovation activities using planned, regulatory, actual data; the data on the change of impact of innovative factors with the help of systems of planning, regulation, accounting and control.

The result of the made adjustments was implementation of specific developments and

improvements in the activities of industrial enterprises in Lugansk region. The following was improved:

organizational and economic interrelationship of strategic and operational controlling of innovation activity of the industrial enterprises by means of identifying the main characteristics; summarization of theoretical and methodological bases, organization of functioning, creation of graphics structural model, formation of the effective interconnection model and the main ways of the increase of effectiveness of interconnection of strategic and operative controlling of innovation activity of industrial enterprises;

the method of graphic interpretation of the results of controlling of innovation activity of industrial enterprises by means of detection a mechanism of change of effectiveness of the industrial enterprises functioning in strategic perspective as a result of controlling and discovering the gap between the desired and expected performance;

the sequence of development and implementation of the balance sheets strategic derivatives in controlling innovation activity of industrial enterprises by means of implementation of the phase of correction, transformation, strategic phase and the phase of hypothetical asset sales and meeting requirements that ensures improvement of analytical support of strategic innovation management;

the method of scenarios in strategic controlling of innovation activity of industrial enterprises which allowed to define the stages of making scenario of innovation activity of industrial enterprises and build the scenario of the enterprise innovation activity, the use of which has improved the process of innovation development forecasting.

CONCLUSIONS

The research results have been received; offered approaches, methods and models allow to use them in practice in industrial enterprises management to improve the results of their innovation activities.

REFERENCES

1. **Bezchasnyj L.K., 2000.:** Innovative element of economic development: [monograph] / [editor-in-chief L.K. Bezchasnyj]. - Kiev, 2000. - 262 p.

2. **Buz'ko I, Yefremov O., 2010.:** Pre-conditions of forming of information-innovative development paradigm of Ukrainian industrial enterprises / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010. V XB. – P. 214–219.
3. **Demsenko M.P., 2008.:** Investment and innovation activity: theory, practice and experience [monograph] / [edited by M.P. Demsenko, L.I. Mikhaylovoy]. - Sumi: Umversitetsjka kniga, 2008. - 1050 p.
4. **Gerasymchuk V.G., 2000.:** Strategic management of enterprise: graphic modeling. – K.: KNEU. – 457 p.
5. **Glaziev S., 1993.:** Theory of long-term technical and economical development. - M.: VlaDar, 1993. - 310 p.
6. **Grynov V.M., Kozyreva O.V., 2006.:** Socio-economic problems of enterprises innovative development. – KH.:INZEK. – 192 p.
7. **Ilyashenko S.M., 2003.:** Innovation development management: problems, concepts, methods. - Sumi: VTD Universitetsjka kniga, 2003. - 278 p.
8. **Ilyashenko S.M., 2005.:** innovation development management. - Sumi: Umversitetsjkniga, 2005. - 324 p.
9. **Ivanov Y.B, Pihpenko A.A., 2006.:** Concept and ontology of the object domain of management of integrated company development / / Ekonomika promislivosti. - 2006. - № 1. - P. 162-171.
10. **Maksimova T., Shapran E., 2010.:** Approach to diagnostics of marketing complex of industrial enterprise / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 5-11
11. **Nadyon G, Dyachenko Y., 2010.:** Anticrisis management of industrial enterprises staff / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 56-59.
12. **Ramazanov S., 2010.:** Innovative technologies of anticrisis management for production-transport complex / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 120-124.
13. **Stadmik V., Rudmchenko K.M, Tomalya T.S, Nepogodma N.I, 2008.:** Innovation and investment strategies in the management of the market value of the enterprise: [monograph] / [V.V Stadmk, K.M. Rudmchenko, T.S. Tomalya, N.I. Nepogodma]. - Khmeljmcjkiy: KhNU, 2008. - 302 p
14. **Tretyak V., Kurilov M., 2010.:** National innovation system as the basis of innovation-type economy / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 5-11.
15. **Volkov O.I, Demsenko M.P, Grechan A.P, 2006.:** Innovative development of industry in Ukraine. - K.: KNT, 2006. - 648 p.
16. **Voronkov D, Korolevska N., 2010.:** Model of potential changes in the enterprise / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 253-259.
17. **Voronkova A. E., 2000.:** Strategic management of enterprise competitive potential: diagnostics and organization. Monograph. – Lugansk: East-Ukrainian National University. – 315 p.
18. **Voronkova A., Sushchenko O., Chasovskyi S., 2010.:** International competitiveness of the region as the background of forming geoeconomic directions of foreign economic activity of its industrial enterprises / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 304-309.
19. **Voronkova A., Grynov A., 2010.:** Model of human capital company / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 310-315.
20. **Zhdanova O., 2010.:** Features of industrial enterprises market positioning on the basis of marketing policy / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 345-350.
21. **Zhytnyy P., Kulikova O., 2010.:** Problems and prospects of the development banking system on Ukraine in the conditions of globalization / TEKA KOM. MOT. I ENER. ROIN. – OL PAN, 2010, 10 B, V XB. – LUBLIN, 2010. – P. 351-356.

**СТРАТЕГИЧЕСКИЙ КОНТРОЛЛИНГ
ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ
ПРЕДПРИЯТИЙ В УСЛОВИЯХ ИЗМЕНЕНИЯ
ТЕХНОЛОГИЧЕСКОГО УКЛАДА
ЭКОНОМИКИ**

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Ирина Литвинова*

Аннотация. В статье обоснованы теоретические и методические положения относительно организации стратегического контроллинга инновационной деятельности предприятий, обоснована целесообразность контроллинга в управлении деятельностью предприятия, определены предпосылки формирования концепции контроллинга в управлении инновационной деятельностью предприятия.
Ключевые слова. Инновация, деятельность, уклад, управление, контроллинг.