

Modeling of the Balanced Strategy of Innovative Development of the Enterprises as Bases of Ensuring Economic Security of Russia

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Abstract — Justification of need of implementation of innovative development on the principles of balance expressed through compliance of changes in the production, technological, organizational and administrative spheres is presented in the article. According to authors, implementation of the specified requirement is the most important condition of ensuring success of innovative development of the domestic enterprises as factor of their economic security and our state in general. In the context of balance the dynamic model of strategy of innovative development based on set of key indicators of effectiveness, allowing to carry out effective planning and monitoring of realization of strategic actions for achievement of goals is offered. Feature of the offered model is tracking of the "balance" condition allowing to create necessary conditions for implementation of technological production innovations. Practical approbation of the offered model shows the effectiveness of its application expressed through achievement of higher indicator values characterizing innovative development of the enterprise.

Keywords — economic security, innovations, the balanced strategy of innovative development, an enterprise management system, balance score card.

I. INTRODUCTION

The efficiency and competitiveness of national economy is in inextricable connection with its economic security. Economic security considerably depends on the innovative policy aimed at realization of the state interests, the national capital and scientific community in the field of creation, development in production and market promotion of scientific, technological, organizational and administrative innovations. In the Strategy of economic security of Russia till 2030 the statement defining that "a main objective of state policy in the sphere of ensuring economic security are: ... maintenance of scientific and technical potential of economy development on a world-wide basis and increase in its competitiveness" is fixed [1].

Development of economy at a present neoindustrial stage is caused by innovative processes that allows to claim that the sphere of innovative activity has to become the main resource of the state which efficiency of use largely defines dynamics and progressive orientation of development of the state in general. In this regard activization of innovative activity of the enterprises as main subject of national economy, is becoming the defining condition of realization of Russia's national interests in the field of ensuring high level of economic and national security.

II. BALANCED STRATEGY OF INNOVATIVE DEVELOPMENT AS BASIS OF ECONOMIC SECURITY

Economic security of the state is in close connection with the innovative strategy which is understood as the choice of the most effective directions and ways of technical and technological development, based on long-term forecasting, comparison of external and internal factors, accounting of resource restrictions. Formation and realization of innovative strategy are the most important prerequisite of economic growth of a national economy in general, and economic growth of regions and the enterprises.

Now the purposes and the directions of innovative development of the Russian enterprises are defined by the Strategy of innovative development of the Russian Federation till 2020 (further – Strategy) which according to B. Santo, being the central strategy, defines holding the concrete actions planned by the state for development of innovative activity of economic entities, promotes development of the national economy, influencing external and internal environments of the enterprises in such a way that it allows to accelerate scientific and technical development, thereby increasing the level of economic efficiency. This strategy is a frame reference point of innovative development of the separate enterprises and defines the main priorities and the directions in

search of the effective decisions based on development and realization of innovations.

Despite the efforts on formation of favorable business climate made from the state, level of innovative activity of the Russian enterprises by 2018 hasn't exceeded 8,4% [2] at target value of 40-50% [3]. It is obvious that this situation is unacceptable at the priority of transition of national economy established at the state level from primary to innovative model.

"The new effective model of development of economy is the model answering the purpose of social and economic development of the country, providing formation of modern outlook, generation of the research environment, reflecting the effectiveness of real process of reproduction and effectiveness of work of each division realizing efficiency of internal process of production" [4]

Problems of formation of strategy of innovative development of the enterprises were an object of research of rather large number of domestic and foreign researchers, for example, [5,6,7,8]. At the same time, it is important to note that for domestic science the "narrow" orientation by consideration of questions of innovative development expressed in concentration only on technological aspect is peculiar what, in particular, the choice of the key strategic parameters in Strategy testifies to. In the unreasonable aspiration to reach those values of indicators of innovative activity which the innovation-active countries reached by purposeful effort within several decades the Russian representatives of the government have carried Russia on the level of the developed countries, without aspects of the level of development of the elements creating favorable conditions for innovative susceptibility of the Russian enterprises. As result, in domestic economy the picture showing us a practical fruitlessness of all financial injections in implementation of innovative activity takes place.

Innovative activity of the enterprise provokes changes in all structural and functional spheres, thereby causing an imbalance of the general developed managing contour that naturally leads to violation of balance of functioning and development of the enterprise as economic system. Therefore significantly important characteristic of strategy of innovative development is ensuring the corresponding dynamism and proportionality of development of separate functional and structural elements of activity of the enterprise within the chosen strategic direction. Respectively, strategy has to meet the requirements of balance which, generally, can be defined as coherence, interconditionality, harmony, steadiness of system on all her components. Unambiguous understanding hasn't developed in the relation to a concept of balance as the economic category yet. In modern researches about balance of economic systems of various level as synonyms terms balance, balance, proportionality are used [9]. Distinctions consist in approaches to definition depending on the choice of the purposes and concrete objects of a research (national, regional economic systems, industrial complexes) [10], the aspiration to correlate economic resources and the needs for them taking into account scales, loudspeakers, structure and qualitative

characteristics [11; 12]. So, Igor Ansoff considers "balance" as a combination of strategic elements at which success of economic entity is achieved on the basis of optimality of a ratio "expense/income/time". In aspect of strategic planning the balance is represented by the researcher as ensuring continuous growth and profitability of the organization by improvement of compatibility of life cycles of demand and technology [13]. In the big definition dictionary of Russian language by S.A. Kuznetsov the concept "balance" is treated as "the ratio of mutually caused parts, elements providing normal existence, functioning, work of something" [14]. From V.M. Ryabov's points of view, the balance is the proportional development of all structural elements of the enterprise providing the solution of the tasks set for the enterprise [15]. R. Kaplan and D. Norton understand equation as balance between financial and non-financial indicators of success, between internal and external components of the organization, between the lagging and forward-looking indicators [16].

Thus, from positions of various researchers the concept "equation" represents:

- the optimality of processes of the internal environment defining maximizing of efficiency of the enterprise's activity;
- balance of parts, elements, component, success indicators as condition of normal functioning and development of the enterprise;
- proportional development of structural elements of the enterprise.

In the current economic factors in our country innovative development for the domestic enterprises is "compelled", provoked by state in the aspiration to transfer the Russian economy to the shortest possible time on the innovative way of development. However, the enterprises are not ready to such "innovative jump".

Considering the condition of the domestic enterprises characterized by a significant gap between requirements of the external environment and a condition of the internal environment development and realization of the innovative purposes and strategic directions of innovative development demands the approach which is objectively considering set of the external and internal factors influencing on implementation of innovative activity and defining efficiency of the functioning acting as "soil" of innovative development of the enterprise [17]. At the heart of the existing gap between external and internal environment there are the disproportions between innovative activity and the operating enterprise management system expressed in the existing imbalance of the development level of this system and requirements of processes of development and realization of innovations. The prevalence of outdated methods and technologies of management in functioning of the enterprises exerts negative impact not only on the current processes of implementation of activity, but also can't provide processes of modernization, updating and development of the available potential for the purposes of innovative development with effective administrative decisions.

Therefore as a basis of such approach it is expedient to consider the balance of strategy of innovative development

directed to prevention of the existing imbalance between requirements of the external environment and a condition of a control system, providing the corresponding development of components of system of the enterprise for achievement of overall objectives of development.

III. MODELLING OF THE BALANCED STRATEGY OF INNOVATIVE DEVELOPMENT

Formation of effective innovative strategy of the enterprise assumes creation of the algorithm of actions directed to achievement of concrete result – increase in innovative activity of the enterprise.

In aspect of the balanced strategy of innovative development of the enterprise, along with the project-oriented balance reflecting optimality of the choice of projects in the development, production and administrative sphere, criterion of efficiency is ensuring balance of business processes in the course of implementation of innovative strategy. Therefore one of the major tasks when forming and the subsequent realization of strategy is definition of the model allowing to reveal compliance to criterion of process balance at each stage of implementation of strategy of innovative development.

As the solution of an objective there is the dynamic model of the balanced strategy of innovative development based on determination of parameters and indicators of strategic development in a projection of each of stages of implementation of innovative strategy. Values of the external and internal factors exerting impact on process of strategic development are defined as parameters of strategic development, values of the target criteria demonstrating performance of the planned actions and achievement of the intermediate purposes of development are defined as indicators.

The set of the innovative projects realized in a certain sequence in the technical, technological, organizational and administrative sphere during T period is the cornerstone of the innovative development strategy of the enterprise. Then, proceeding from [18], dynamics of realization of the balanced strategy of innovative development of the enterprise can be presented in the form of the following equation:

$$S(\sum_{i=1}^n x_i(t)) = (U_i(x_{i-1}(t), r_i(t)) \quad x_i(t) \quad Q_i - x_i(t) \quad F(t \geq t_i) \rightarrow G \quad (1)$$

$F(t)$ – the function indicator reflecting the movement of strategic development during time $[0; T]$ to the set strategic objectives of $G (G_1, G_2, \dots, G_n)$; x_i – the development level of the enterprise characterized by dynamics of implementation of innovative projects of technological forms of the innovations and innovations aimed at the development of the operating strategy control system; $U_i(x_i(t), u_i(t))$ – the function describing dynamics of achievement of strategic objectives by means of management of innovative strategy at each stage of process of strategic development (x_i) taking into account use of the $u_i(t)$ resources; – the reached development levels of the enterprise during strategy realization process.

The change trajectory $S(\sum_{i=1}^n x_i(t))$ as functions of x_i during the period $t \in [0; T]$ reflects dynamics of innovative development of the industrial enterprise expressed in achievement of the set strategic objectives according to transition to a new qualitative state.

In a general view, without parameters of external influence, function of income $D_i(x_i(t))$, function of expenses $C_i(x_i(t))$ and the function reflecting compliance of a control system to requirements of the strategy of innovative development of $Y_i(x_i(t))$ are making the U_i functions:

$$D(x) = \int_0^T d(x(t)) dx, \quad (2)$$

$D(x)$ – income gained in the course of realization of strategy of innovative development; $d(x(t))$ – the income corresponding to the development level of the enterprise x_k to the strategy realization t period.

$$C(x) = \int_0^T c(x(t)) dx, \quad (3)$$

$C(x)$ – the expenses accompanied process of realization of strategy of innovative development of the enterprise; $c(x(t))$ – the expenses corresponding to the development level of the enterprise x to the strategy realization t period.

$$Y(x) = \int_0^T e_\gamma(x(t)) dx, \quad (4)$$

$Y(x)$ – the development level of an enterprise management system conforming to requirements of process of realization of strategy of innovative development of the enterprise; $e_\gamma(x(t))$ – the development level of an enterprise management system reached as a result of implementation of projects γ , the x enterprises corresponding to the development level to the strategy realization t period.

At the same time if definition $D(x)$ and $C(x)$ can be also carried out on the basis of calculations of cost indexes of projects of innovative development, then definition $Y(x)$ is obviously possible on the basis of given expert assessment from positions of ensuring balance of innovative developments that complicates implementation of calculations of criteria of efficiency of function $U (D (x), C (x), Y(x))$ on the basis of the standard method of calculation of absolute and relative effectiveness ratio.

The appeal to the system of the balanced indicators and definition as the $F(BSC)$ function indicator, the reflecting dynamics of achievement of target indicators of the development strategy can be a solution:

$$U(D(x), C(x), Y(x)) = F(BCS) \quad (5)$$

Then the efficiency criterion U_i in a section of the basic prospects reflecting process of strategic development through set both cost, and qualitative, based on expert estimates, values of the indicators corresponding to each of stages of development of the enterprise will act as criteria of efficiency

of the U_i function. At the same time integrated dynamics of the efficiency criterion by the period of T will reflect in general achievement of results of the development strategy.

From positions of the offered model, process of innovative strategy of the enterprise represents set of the developments of the technical, technological, organizational and administrative spheres which are carried out on the principles of synchronous, dynamic and continuous balance. At the same time the special attention when tracking the course of realization of strategy is given compliance to the planned movement of process of change of the organizational and administrative spheres as creating necessary conditions for development of the technical and technological spheres. This condition defines need of emphasis of attention to aspects of efficiency of management innovations when determining efficiency of realization of strategy and its compliance to criterion of process balance.

Generally, researchers offer to use the techniques based on a ratio of cost criteria of profitability and expenses and also their various variations for assessment of efficiency of projects of innovative development [19; 20; 21; 22; 23]. At the same time it is possible to mark out the following characteristic features inherent in the majority of the techniques applied now:

- the orientation to external users defining calculation only of cost indexes;
- orientation to the competitiveness assessment considering only internal parameters of the enterprise without ratio with parameters of competitors;
- use for assessment of efficiency of innovations of indicators of assessment the investment of the projects which aren't allowing to consider the features of innovations which don't have value terms;
- use as "comparative" metrics data on the innovations realized at other enterprises that reduces objectivity of assessment of efficiency.

Innovations in a control system have features which positive influence cannot be estimated by means of traditional indicators. As it is noted, innovations in a control system influence the general results of business indirectly that complicates calculation of their contribution by means of traditional ways [24]. It defines need of the appeal to indicators of efficiency, other than the traditional ones, used for technological forms innovations that would allow to give an objective assessment taking into account their specifics.

The analysis of modern techniques of assessment of efficiency of the organizational and administrative innovations offered by both foreign and domestic researchers [24, 25, 26, 27, 28] allows to draw a conclusion that the few from the existing approaches can be realized in practice in view of their complexity, specificity, lack of concrete algorithms of calculations and subjectivity of some of them.

With positions of approach of the balanced development, the conditions of a control system created by means of organizational and administrative innovations at which there is possible an effective implementation of innovative projects in the technical and technological sphere of the enterprise act as

a basis of efficiency. Reflection of such conditions is the size of integrated criterion of balance of innovative developments of the enterprise as indicator of ideality of process of strategy based on dynamic comparative algorithms. Planned targets of strategy of BSC are established as basic indicators whereas the reached indicators on condition of performance of criteria of process balance are established as ideal. Thus, the set of the balanced indicators of efficiency has to include not only indicators in a section of the main prospects, peculiar "traditional" BSC, but also criterion of process balance of developments of the technical, technological, organizational and administrative sphere.

As key indicators of a condition of internal business processes it is expedient to use criteria of balance of developments of the technical, technological, organizational and administrative spheres that will also allow to carry out monitoring of process of realization of strategy of the balanced development of the enterprise on compliance to the plan as deviations from the established values of coefficients of balance will be accompanied by deviations in the indicators characterizing other aspects of innovative strategy.

The offered set of key indicators of effectiveness of the balanced innovative strategy is presented in Table 1.

TABLE 1. KEY INDICATORS OF EFFECTIVENESS OF THE BALANCED STRATEGY OF INNOVATIVE DEVELOPMENT

Key indicator	Content
Prospect: Finance	
Volume of sales of products of innovative activity, V_{IA}	It reflects the size of income from implementation of innovative activity
Financial result from innovative activity, FR_{IA}	It characterizes the size of financial result from innovative activity
Cash flow from innovative activity, CF_{IA}	It characterizes balance of the entering and proceeding cash flows connected with implementation of innovative activity
Prospect: Marketing	
The market share occupied as a result of implementation of innovative activity, d_{IA}	It characterizes the market share occupied as a result of implementation innovative activity
Number of buyers of innovative production, N_{IA}	It characterizes number of buyers of innovative production
Prospect: Internal business processes	
Number of innovative projects, Num_{IA}	It characterizes innovative activity of the enterprise
Coefficient of balance of innovative projects, $I_{(B)_p}$	It characterizes degree of balance of innovative projects
Coefficient of balance of innovative processes, $I_{(B)_{ent}}$	It characterizes degree of balance of innovative processes
Prospect: Staff	
Coefficient of security with human resources for	It characterizes security of innovative activity with a

Key indicator	Content
implementation of innovative activity, $C_{P_{IA}}$	manpower
Coefficient of compliance of skill level of personnel demanded for implementation of innovative activity, $C_{SL_{IA}}$	It characterizes the level of readiness of personnel for performance of work within innovative activity

Application of the specified indicators of effectiveness of the balanced strategy of innovative development of the enterprise will cause a possibility of determination of efficiency of the applied innovations in the production and administrative sphere in the course of strategic development through dynamics of indicators reflecting the sequence of achievement of strategic objectives of development.

IV. APROBATION OF DYNAMIC MODEL OF THE BALANCED STRATEGY OF INNOVATIVE DEVELOPMENT OF THE ENTERPRISE

Confirmation of practical applicability of the offered dynamic model reflecting aspects of the balanced strategy of innovative development of the enterprise are results of modeling of strategy of innovative development of LLC "Akripol" for 2018-2028. As the first option the scenario of development at which it is planned to carry out only technological forms of innovations aimed at the development of a production system without the corresponding development of a control system is accepted. When calculating indicators of the second scenario of development it is accepted that changes will cover both the production, and administrative sphere of the enterprise and to be carried out on the principles of balance. The received results of calculations by 2028 through a prism of the offered indicators of effectiveness of dynamic model of the development strategy based on innovations are presented in Table 2.

TABLE II. RESULTS OF COMPARISON OF SCENARIOS OF INNOVATIVE DEVELOPMENT OF THE ENTERPRISE

Key indicator	First scenario		Second scenario	
	2018	2028	2018	2018
V_{IA} , thousand of roubles	210 000	358 357	210 000	358 357
FR_{IA} , thousand of roubles	168,00	895,89	168,00	895,89
CF_{IA} , thousand of roubles	-19 459	8 762	-19 459	13 317
d_{IA} , %	2,02	5,23	2,02	5,23
N_{IA}	267	309	267	309
Num_{IA}	1	1	2	2
$I_{(B)_P}$	0	0	1	1
$I_{(B)_{ent}}$	0	0	1	1

Key indicator	First scenario		Second scenario	
	2018	2028	2018	2018
$C_{P_{IA}}$	1	1	1	1
$C_{SL_{IA}}$	1	1	1	1

As these tables show, the scenario of the balanced development is more attractive, expressed for the enterprise, at similar indicators of development of the production sphere, in achievement of higher financial performance that has allowed to reveal use of the set of indicators offered in model.

V. CONCLUSIONS

Thus, we can speak about confirmation the hypothesis of need of implementation of the complementary development based on innovations in the production and administrative sphere made by authors and we can do it on the basis of the received results of practical approbation of the offered tools for modeling of the balanced strategy of innovative development of the enterprise. In the course of finding solutions, the enterprises directed to increase in innovative activity, it is expedient to pay attention to a control system from the point of view of the major factor providing creation of necessary conditions for the initiated changes on the basis of other types of innovations. Orientation to balance of development will provide effective innovative development, the movement to goals, thereby providing the high level of economic security of the enterprises and Russia in general.

References

- [1] "O Strategii jekonomicheskoy bezopasnosti Rossijskoj Federacii na period do 2030 goda" [On the Strategy of economic security of the Russian Federation for the period up to 2030"] (2017), Ukaz Prezidenta RF ot 13.05.2017 № 208 [Decree of the President of the Russian Federation of 13.05.2017 № 208], Collection of legislation of the Russian Federation.
- [2] Federal State Statistics Service (2018), "The Main indicators of innovative activity", available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/science_and_innovations/science/# (Accessed 20.03.2018).
- [3] Strategija innovacionnogo razvitija Rossijskoj Federacii na period do 2020 goda: otkrytyj jekspertno-analiticheskij otchet o hode realizacii [Strategy of innovative development of the Russian Federation for the period up to 2020: open expert and analytical report on the implementation] (2014), Moscow, Russia.
- [4] Sushkova, I. A. (2013), Neoindustrial'naja politika: osnovy formirovanija, faktory razvitija: monografij [A neo-industrial policy: the fundamentals of formation, development factors], Publishing Center "Science", Saratov, Russia.
- [5] Bredikhin S., Linton J., Matoszko T. (2017) Why and How the Value of Science-Based Firms Violates Financial Theory: Implications for Policy and Governance. *Foresight and STI Governance*, vol. 11, no 1, pp. 24-30.
- [6] Golikova V., Kuznetsov B. (2017) Sub-optimal Scale: Factors Preventing Growth of Russian Small and Medium-sized Enterprises. *Foresight and STI Governance*, vol. 11, no 3, pp. 83-93.
- [7] Dezhina I., Ponomarev A. (2016) Approaches to the Formulation of Russia's Technological Priorities. *Foresight and STI Governance*, vol. 10, no 1, pp. 7-15.

- [8] Strategija jekonomicheskoj bezopasnosti Rossii: novye orientiry razvitiya [The Strategy of economic security of Russia: new directions in development] (2017), I scientific-practical conference "Sinegovskii read" scientists, experts, University professors, graduate, Moscow, Russia, 14 March, 2017, 265 p.
- [9] Belkin, V. D. (1983), Planovaya sbalansirovannost': ustanovlenie, podderzhanie, jeffektivnost' [Planned balance: establishment, maintenance, efficiency], Economics, Moscow, Russia.
- [10] Anderson, R.E. (2004) Just get out of the way: how government can help business in poor countries, Cato Institute, Washington, DC.
- [11] Myakshin, V. N. and Pesyakova T.N. (2008), "The system of indicators for assessing the balance of the regional timber industry", *Lesnoy Zhurnal (Forestry journal)*, no. 4, pp. 140-147.
- [12] Myakshin, V. N., Pesyakova T.N. and Myakshina R. V. (2015), "Balance and proportionality of socio-economic development of the regulatory function of management", *Regional Economics: theory and practice*, no. 22 (397), pp. 31-41.
- [13] Antikrizisnoe upravlenie: uchebnik [Crisis management: textbook] (2000), in Korotkov E. M. ed., INFRA-M, Moscow, Russia.
- [14] Kuznetsov, S. A. (2000), Bol'shoj tolkovyj slovar' russkogo jazyka. Spravochnoe izdanie [Big explanatory dictionary of Russian language. Reference edition], Norint, SPb., Russia.
- [15] Ryabov, V. M. (2012), "Balanced development of the industrial enterprise in the conditions of innovative transformations", *Vestnik Samarskogo gosudarstvennogo ekonomicheskogo universiteta. Economics*, no. 12 (98), pp. 89-92.
- [16] Kaplan, P. S. and Norton, D. P. (2003), Sbalansirovannaja sistema pokazatelej. Ot strategii k dejstvu [Balanced scorecard. From strategy to action], Olymp-Business, Moscow, Russia.
- [17] Kiseleva, O. N. (2017), "Features of formation and realization of strategy of innovative development of the industrial enterprises of Russia", *Nauka, tehnologii, tehnika: sovremennye paradigmy i prakticheskie razrabotki [Science, technology, engineering: modern paradigms and practical developments]*, I international scientific-practical forum, St. Petersburg, Russia, 31th July 2017, pp. 527-537.
- [18] Novikov, D. A. and Ivashchenko, A. A. (2006), Modeli i metody organizacionnogo upravlenija innovacionnym razvitiem firmy [Models and methods of organizational management of innovative development of firm], Book House, Moscow, Russia.
- [19] Afonin, I. V. (2006), Innovacionnyj menedzhment i jekonomicheskaja ocenka real'nyh investicij. Serija: Homofaber [Innovation management and economic valuation of real investments. Series: Homofaber], Publisher: Gardariki, Moscow, Russia.
- [20] Abrameshin, A. E., Voronina, T. P., Molchanova, O. P., Tikhonova, E. A. and Shlenov, Yu. V. (2001), Innovacionnyj menedzhment: Uchebnik dlja vuzov [Innovation management: Textbook for universities], in Molchanova O. P. ed., Vita-Press, Moscow, Russia.
- [21] Mershev, R. V. (2010), "Problems of innovation efficiency evaluation", *Mining information and analytical Bulletin (scientific and technical journal)*, no. 5, pp. 114-119.
- [22] Fatkhutdinov, R. A. (2003), Innovacionnyj menedzhment [Innovative management], fourth ed., Piter, SPb., Russia.
- [23] Semenova, O. G. and Ismagilova, G. V. (2012), "Peculiarities of estimation of efficiency of innovative activity", *Management of innovation: theory, methodology, practice*, no. 1, pp. 80-85.
- [24] Garipova, G. R. (2010), "Methodological aspects of assessing the effectiveness of management of innovation", *Vestnik Kazanskogo tekhnologicheskogo universiteta*, no.1, pp. 324-329.
- [25] Averkiev, V. P. (1986), Upravlencheskie novovvedenija v SShA: Problema vnedrenija [Management of innovation in the United States: the Problem of introduction], Science, Moscow, Russia.
- [26] Asaul, A. N., Asaul, V. V., Asaul, N. Ah. and Faltinsky, R. A. (2010), Vvedenie v innovatiku: uchebnoe posobie [Introduction to innovation: textbook], in Asaul A. N. (ed.), ANOPEN, SPb, Russia.
- [27] Vaganov, P. I. (2002), Innovacionnoe upravlenie i upravlencheskie innovacii: konceptual'nye predposylki i osnovy sistemnogo modelirovanija [Innovative management and managerial innovations: conceptual background and basics of system modeling], University of Economics and Finance, SPb., Russia.
- [28] Sultanov, A. R. (2015), "Comprehensive evaluation of the implementation of management innovation in industrial enterprises", *Bulletin of the Altai Academy of Economics and law*, no. 2, pp.67-69.