

Integrated assessment of innovation in enterprises

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Abstract: The issues of the legal regulation of innovation in Kazakhstan are considered in the research paper. The current status of innovative development of enterprises is analyzed. The basic approaches to the integrated assessment of innovation efficiency of enterprise are examined and the most acceptable approach meeting the modern conditions is offered.

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1. Introduction

Today the problem of development and growth of the competitiveness of enterprises is the foundation of economic growth of the state; it's especially topical in the context of economic globalization and Kazakhstan's membership in the Customs Union. Innovative component of enterprise development is a catalyst of economic and competitive growth. In view of this, the domestic scientists should focus mainly on the conceptual development of innovative management system of the enterprise with emphasis on the assessing the effectiveness of innovation, which success determines the feasibility of innovation [1].

2. Material and Methods

Both domestic and foreign authors studied the problems of assessing the enterprise innovation effectiveness, among them A.L. Abaev (Abaev, 2008), A.E. Gerasimov (Gerasimov, 2001), A. Chulok (Chulok, 2004), S. Dedkov (Dedkov, 2007), P. Zavlin (Zavlin, 1998), G.A. Makhovikova (Makhovikova, 2010), V. Veynrih and W. Hoffman (Veynrih, Hoffman, 1989), etc. Although most of the authors study approaches to assessing innovation without evaluating their system impact on all spheres of business.

The main objectives of this paper is to study the state of innovative development of the enterprises in Kazakhstan, to evaluate the approaches to assessing the effectiveness of the enterprise's innovation and to choose the most appropriate approach in view of the present conditions of operation.

The processes of scientific and technological development, the increase in the efficiency of innovation of enterprises affect the application of high technology, the acceleration of economic growth in Kazakhstan. The successful

development of innovative processes is directly related to the support of these processes at the legislative level. In Kazakhstan, serious transformation in the legislation took place regulating the innovation.

The law "On innovation" [2] was adopted in the Republic of Kazakhstan, regulating relations in the field of innovation, defining the main directions, principles and forms of implementation the state innovation policy. To replace the above-mentioned law the law "On state support of industrial activity and innovation" of January, 9 2012 № 534-IV [1] was adopted, aiming at regulation of economic, legal and organizational foundations of stimulation and state support of industrial activity and innovation. In this Law the innovation was represented as a component of industrial activity and innovation, which is connected with the necessity of innovation development of the main sectors of economy. According to the legal terminology, the industrial activity and innovation is the activity of juridical entities (or individuals), based on the implementation of projects of industrial and innovation nature accounting for ecological component, aimed at growing of the labor productivity, promoting the development of priority economic sectors or at promoting of the domestic goods (services) to the external (internal) markets [3].

At the present stage there is no statistical information concerning the impact of the new Law [1] on the development of the main economic sectors. Kazakhstan takes the 8th place in the innovation development among the countries of former USSR. When entering to the external markets, the competitiveness of the enterprise depends directly on the level of innovation development. Let's consider the dynamics of GDP and dynamics of share of innovation products in GDP in Kazakhstan during 2005-2010 (Figure 1.1).

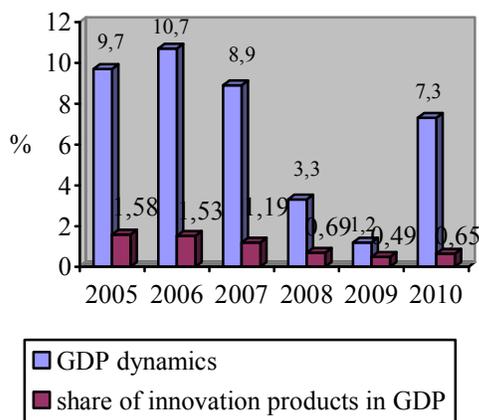


Fig. 1.1 – Dynamics of GDP and Dynamics of Share of Innovation Products in GDP in Kazakhstan during 2005-2010 [4]

According to the Figure 1.1, a gradual reduction in the share of innovation products was observed in the state after 2006, but in 2010 a particular growth of this indicator together with parallel growth of GDP could be noted. The researchers link the growth of innovation in Kazakhstan in 2010 and optimization of the innovation policy of the state with entry of Kazakhstan to the Customs Union.

It's necessary to note that innovation activity of the enterprises is also one of the important indicators of the innovation. Thus, the Figure 1.2 illustrates the dynamics of innovation activity of the enterprises of Kazakhstan during 2005-2011 [4].

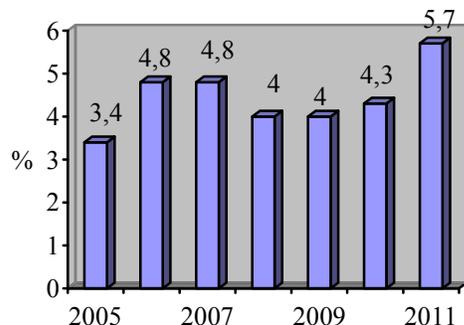


Fig. 1.2 – dynamics of innovation activity of the enterprises of Kazakhstan during 2005-2011 (4)

The information in the Figure 1.2 provides evidence of the mapped out trend of the innovation development, being demonstrated on the dynamics of growth of the share of innovation products in GDP of the state (Figure 1.1).

The development of innovation of the enterprise depends on its general innovation strategy, the estimate of efficiency of this activity being its important component. Different approaches concerning the methodology of the integrated assessment of the innovation could be found in the scientific studies [5].

Gerasimov A.E. proposed to evaluate the effectiveness of enterprise's innovation in key areas: estimate of economic efficiency of innovations in terms of impact on the enterprise's activity; estimate of efficiency of managing this activity in terms of ensuring the continuity of innovation processes and achieving the final goal; estimate of the factor of time, that is the evaluation of the planned effects of innovation for a certain period of time. According to the Author, this approach takes into account mainly the estimate of economic efficiency of innovation. Applying this approach it's possible to carry out express-evaluation of efficiency.

There is an approach that an integrated assessment of enterprise's innovation may be carried out by analogy with the estimate of efficiency of investments on the methods of investment analysis. According to the researchers [6] to analyze the estimate of efficiency of enterprises' innovation in foreign practice the basic indicators of investment analysis are applied, among them there are the following: net discounted earnings, internal rate of profit or discount factor, simple rate of return, financial autonomy of innovation project, liquidity ratios, recoupment of investments in innovation projects. The above approach takes into account only the efficiency of investments in innovation projects and doesn't allow estimating all kinds of effects from this activity.

It is also proposed to estimate the efficiency of innovation in the context of assessment of the effects from specified activity. The authors cited [7, 8, 9] suggest methods to estimate the efficiency of enterprises' innovation based on an assessment of the effects of such activities. Despite the reasonability of these methods, they represent a fairly limited number of effects, including the economic and social effects.

A.A. Chulok in his study considers the estimate of enterprises' innovation in terms of impact of innovation on rising economic and competitiveness effect.

3. Results

The author believes that the most reasonable to make integrated assessment of the efficiency of innovation in terms of gaining the effects, as this approach allows system estimating the impact of innovation on all aspects of operation of

the business, both in the external and internal environment. To assess the efficiency of innovation in terms of gaining the effects it's necessary to determine the main effects arising as a result of innovation.

Among the scholars adhering to an opinion on the need to assess the efficiency of the enterprise's innovation from the point of view of gaining the effects, the assessment in terms of the economic effect is definitely marked out [7, 8, 9]. In our opinion, the economic effect should be estimated in terms of investment analysis [10] including the basic parameters of the investment analysis presented above, and in terms of economic analysis including the following indicators: innovation project profitability, efficiency of resource and capital use as a result of innovation.

Taking into account that the legal definition of the essence of industrial activity and innovation contains the ecological component [1], an ecological effect could be named as another effect in the overall effectiveness of the enterprise's innovation. Estimate of this type of effect is particularly topical for industrial plants. G.A. Makhovikova proposed to estimate the ecological effect of innovation due to the influence of the latter on the environment. This effect can be measured by the changes of the impact of major indicators in environmental safety before the implementation of innovative projects and after it.

It is also proposed in scientific researches to estimate social efficiency of innovation [7, 8, 9]. Social effect from innovation can be estimated by the indicators of enterprises' social potential: change in the level of income and training of personnel, changes in the level of satisfaction by work performed by the staff, increase in the number of vacancies as a result of innovation, etc.

The topicality of estimate of scientific and technical effect of innovation should be noted that would have included an assessment of the number of registered authoring, the number of citations and publications on the innovation, increase in availability of technological equipment of enterprises, increase in the level of competitiveness. The latter component is sometimes estimated by some authors [6] as a separate component, but since it is the scientific and technical effect that increases competitiveness, it could be included in this type of effects.

4. Discussions

The study of approaches to integrated assessment of the efficiency of companies'

innovation enabled to state that the most reasonable is the approach directed toward the estimation in terms of gaining the effects, since it allows carrying out system analysis of the innovation's impact on the overall state of the company both in the external and internal environment. The main types of effects allowing estimating the overall efficiency of this activity are singled out in the paper, including economic, social, scientific, technological and ecological effects.

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