

## Development of the innovation management system in organization

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**Abstract:** The growth rate of the gross domestic product, taken place in recent years, shows a post-crisis rise of Kazakhstan's economy. However, it is important that the GDP growth in the country's economy is due to the development of industries producing high-tech and competitive products, providing domestic demand and output to an external market. An important factor for solving the problem is to increase the scale of investments in innovative projects of organizations and their effectiveness, which will lead to the implementation of the concept principles on transition of the Republic of Kazakhstan to a "green economy" ultimately.

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### 1. Introduction

There are a number of significant problems impeding innovation activities of organizations in Kazakhstan at both the micro-and the macro-level:

- limitation in the choice of finance sources for innovation, among those where may not be direct presence of the traditional investors for foreign economy, such as pension and insurance funds;
- underdeveloped infrastructure, providing the appearance of new and existing small and medium-growing technology innovative companies in a scientific-technical sphere in Kazakhstan;
- low liquidity of venture capital investment, which is largely due to the insufficient stock market development.

These and other issues which improve the system of innovation management are insufficient investigated in theory and in theoretical and practical aspects and extremely relevant at present.

**The purpose of the investigation** is to determine the forms and methods of developing the system of innovation management organization.

**Theoretical and methodological basis** of the work are the fundamental theories (classical and neoclassical) and works of native and foreign scientists and experts dedicated to theoretical and practical aspects of innovation management organization.

**Instrumental and methodical means of the work.** The tools of the organization general economic analysis: the subject-object, the systemic-functional approach, comparative analysis, and dynamics of economic and statistical grouping are used in the process of investigation of optimization issues of the

process of organization innovative activity management.

**Regulatory and legal framework.** Law of the Republic of Kazakhstan "On innovation", the Law of the Republic of Kazakhstan "On state support of innovation" and other legislative and normative acts of the Republic of Kazakhstan, resolutions and programs of the Government development.

**Information and empirical base** of the research are the legislative, normative and methodological materials in the sphere of government regulation of innovation and investment activities, works of Russian and foreign scientists. The agro-industrial statistics of RK, accounting and analytical information of National Bank of RK, the student's analysis are the empirical base of the investigation.

**The hypothesis.** Author's hypothesis is the aggregate of theoretical positions, according to which the optimization of innovation management organization can be achieved by financial and non-financial methods, including the optimization of the structure of financing innovation activity of the company with venture capital.

**The scientific novelty** of the study is to identify ways of developing the system of innovation management at both the micro -and the macro-level.

**The theoretical significance** of the research is to improve the methodology of the analysis of the formation principles and increase the effectiveness of the system of innovation management organization.

**3. Results and discussion:** Innovation is the main factor of the competitiveness of individual companies and the economy totally. The very terms "innovation", " innovative activity" in various references is understood differently. This is

determined by the differences in economic subjects, using innovation, diversity of innovation itself, the level of the economy development and other factors.

Before considering problems of the innovation management, we should define the concept, classification and sphere of using innovative ideas. [1] Economist and sociologist Y. Shumpeter bases on the fact that innovation is the creation of new combinations of production factors in his work "Theory of Economic Development".

However, in our opinion, such idea of innovation allows creation of basic classification of innovation, but it does not still reveal its essence. Innovations are new discoveries and projects that have received the recognition of the market, i.e. brought to the forms are viable for the manufacturer, agent or customer commercially.

A specialist in the field of strategic management and innovation management U. Chisboro states: "First of all we must make a distinction between inventions and innovations. Invention - the discovery of a new phenomenon, the principle, the creation of new knowledge, not existed before. And innovation - the commercial application of the discovery or invention. The present invention can be produced in the laboratory and innovation should be implemented only on the market in conjunction buyers and sellers. Innovation must satisfy some need in contrast to the discovery or invention, which may or may not take into account the needs of the draws" [2].

You can also agree with the definition of E. Dandona about the nature of innovation. The very definition of innovation is "profitable implementation of a creative strategy" [3]. The definition includes four key elements. First, the creativity is the ability to create new ideas. Second, the strategy is figuring out whether this idea is new and useful from the point of view of the successful strategy of the company. Third, the implementation is the embodiment of a new and useful idea for its realization in specific products and services. If we consider the implementation as the process and the mentioned elements as the stages of the movement of innovation product it is noticed that the implementation is more difficult of them. Often managers are not able to run the venture dealing with new ideas. "Devaluation of the many excellent, creative and potentially innovative ideas" is occurred at this stage. The fourth element of the definition, the profitability is the final product getting the maximum value and confirming the assignment.

In our opinion, the most comprehensive and concise definition of innovation are as follows. Innovation is the end result of innovative activity, have its realization in the form of the new / improved

products in marketing or technological process in practice.

In spite of extended debates on the conceptual structure of innovation management the methodology of systemic innovation description in a market economy is based on international standards nowadays. The Group of National Experts on Science and Technology which has developed the Frascati Manual ("Proposed standard practice for surveys of research and experimental development") is formed for coordinating the collection, processing and analysis of information on science and innovation in the framework of the Organization for Economic Cooperation and Development (OECD).

This document was called due to the fact that the first version of the guidelines was adopted in Frascati (Italy) in 1963. The provisions of Frascati's Manual is updated periodically due to changes in the strategy of scientific and technological policy at the national and international levels in organizing studies and projects. Last edition of Frascati's Manual was adopted in 1993. It contains the basic concepts relating to research and development, their structure and limits, the method of measuring the number of scientists engaged in research and development activity, etc. The method of collecting data on technological innovations is based on the recommendations adopted in Oslo in 1992. It was named "Oslo Manual" [4].

In accordance with the international standards innovation is defined as the final result of innovative activity, introducing in the form of new or improved product, implementing in the market, new or improved technological process used in practice or in a new approach to social services.

An innovative project is a project focuses on the changes or creation of a new technical or socio-economic system. [5] There are modernization, innovation, leading and pioneering innovative projects according to the level of scientific and technical significance. Innovative projects are divided into mono-projects, multi-projects and mega-projects according to the scale of tasks.

The effectiveness of innovative investment projects in the organization is assessed during the accounting period from the beginning of the project until its termination. The larger the accounting period the harder is the accountancy of the possible outcomes of the project. The results of effectiveness can show the outcome of the system of innovation management in the organization.

Table 1 summarizes the advantages and disadvantages of the main indicators of investment performance.

However, effective organizations do not use NPV or IRR as the sole criterion in the evaluation of projects, but they introduce several significant parameters. The calculation of the efficiency of investment projects using these indicators does not yield reliable results without inflation.

During the investigation, the authors had concluded that the improved system of innovation management in the organization should look as shown in Figure 1.

Table 1 – Comparison of the main results of effectiveness of innovation investment projects

Indicator	Positive	Negative
Net discounted income	Simplicity of index number calculation Reflection of real changes of assets of investor during the project implementation	Considerable dependence on subjective chosen account of discount norm; Low account of various size required investments in the process of various projects choice
Payoff period of the project	Importance for investors – must be less than the period of credit usage by loan debtor Importance in the economy crisis conditions, when the priority task is the expeditious profits of investments	It takes into account only the part of results getting before payoff period; Do not take into account profit earning capacity; Impossible using for overall estimate of the effectiveness of several investment projects
Internal norm of profit	Many projects allow to differ profitable and unprofitable	In some cases must be several accounts or no one, where net profit is zero

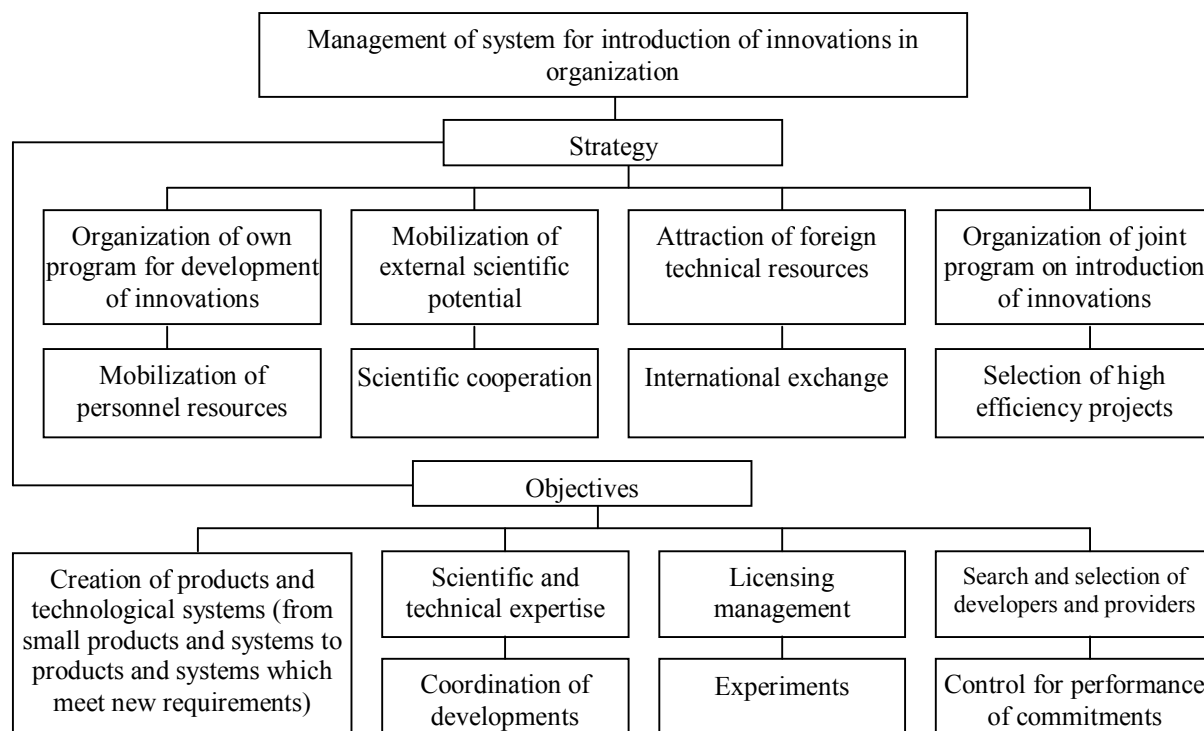


Figure 1. Management of system for introduction of innovations in organization

Any investments are risky to a greater or lesser extent. Investment risks can be the following:  
– in lost profits (when a decision is made on the implementation of the project, which give a smaller income than others);

– in decreasing profits as a result of the impact of internal and external facts (the decrease in sales compared with the planned, changes of credit percentage and others);

– in the possible direct financial losses due to the bankruptcy of partners, changes in the market conditions and other factors.

The innovation projects are more risky in which together with the general investment risks the specific innovation risks are added.

There are many innovative risks and ways of their impact on the results evaluation of the innovation process. Innovative risks concern with innovation features as the control object. Their level is determined by several factors:

1. the stage of the innovation cycle, determined by the innovation type (highest risk peculiar to the development of basic innovation with weak predictability of the result and date of its receipt);
2. the type of innovation (for product - innovation risk is the possibility of a new product emergence on the market with the best properties, quality and price, for the innovation process is the mismatch of its parameters with the products quality requirements of the market producing for using it);
3. overestimates (rare – understated estimates) of the innovation characteristics made by authors;
4. the lack of information of market demands (volume, duration) on the product - innovation;
5. the lack of information on the required equipment characteristics, scientists' qualifications in product – innovation development;
6. the lack of qualified scientists, implementing innovative idea;

In order to achieve calculation effectiveness of innovation projects it is necessary to take into account risk factors and uncertainty. Assessing the risk impact on the final result is very important for the correct choice of the innovative project, and also for planning the innovative portfolio.

– Choosing the option strategy of innovation policy, the management of the company must take into account such important factors as:

- development of the new strategies based on past experience strategies and results of usage of current strategies;
- take into account the level of the risk in the decision;
- good ideas often fail because they were offered inopportune moment (the time factor);
- owners often have a strong pressure on the strategic plan developed by innovative managers.

Interpretation of strategic and innovative management may result in further full integration of these two types of management, the first of which is referred to common control (strategic) and the second concerns the functional one (innovative).

This hypothesis is based on the fact that innovation is more and more determined the general line of long-term development of the enterprise.

The volume of venture capital is also being increased in Kazakhstan.

However, it does not lead to the acceleration of technological progress of the country and the development of high-tech industries. This situation deals with the fact that the amount of venture capital funds for Kazakh businessmen is big enough and Kazakhstan high – tech is not able to offer the project starting from million dollars.

The sum of one hundred to five hundred thousand dollars is needed for Kazakhstan's venture business needs. As long as these companies have grown up, and they will not need million dollars investments existing Kazakhstan's venture capital funds with foreign capital still have the name of the nominal venture, but in substance they will implement the a deal of private equity.

The impulse for the development of small business in the field of new technologies must be implemented by the state. Without the state's participation in financing companies at seed and start-up levels of further development of the venture capital industry is impossible. However, there are problems which do not allow to use the judicial potential provided by the state. They are:

- unpreparedness of the majority of scientific projects of technologies and products for offering to the market;
- lack of the domestic consumer demand for progressive technologies and industrial innovation;
- lack of qualified scientists being on top of issues concerning the innovation process management perfectly [6].

The number of projects ready for investment in Kazakhstan on the venture stages is not large; the circle of potential start-ups is limited enough. In this sense, the role of public institutions of infrastructure venture capital industry development, implementing projects for improving the competence of management of potential applicant companies projects and the company's development at the initial stage is more relevant than ever.

It is proved that the legislation in the field of venture capital financing innovation is meant that the industry is already at a mature stage of the development. Comparing it with the banking sector or the insurance where is the same control level, it can be concluded that priorities are in favor of the industry regulation not for its formation benefit at the moment. It is not justified to create additional obstacles to the way of formation of the industry.

Extension of exact information, guarantee and intermediary venture capital (investment in corporate

law, or through the National Fund of the Republic of Kazakhstan) is the following:

- to search highly innovative projects, projects for the production of competitive products;
- To monitor the innovation capacity of enterprises and evaluation of investment attractiveness of individual companies;
- the pre-investment investigations;
- the analysis of the market technology business, identifying future directions of development of venture business in the regions of Kazakhstan;
- the optimization of venture projects risk-management;
- forecasting and assessment of the risk management of venture projects, including uncertain and weak structural information;
- forecasting macroeconomic indicators of the investment climate and determining the degree of country's risk for foreign investors;
- involvement of the industrial capacities and high-qualified management for specific projects.

#### 4. Conclusions

It is argued that among the necessary governmental initiatives in the field of venture activity are needed those which allow transparency in the taxation of income and capital gains in order to avoid double taxation. It is also necessary to create financial stimuli for investors who invest in unquoted companies on the stock exchange industry, in the form of tax breaks and government guarantees for loans and investments for small business based on innovative technologies that will eventually lead to the implementation of the principles of Kazakhstan's transition to "the green economy".

#### Declaration of Conflicting Interests

The author(s) stated no probable conflicts of interests with respect to the authorship and/or periodical of this article.

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