



# INNOVATIVE BUSINESS OF KAZAKHSTAN IN THE POST-CRISIS CONDITIONS

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**Abstract.** Under the post-crisis conditions in Kazakhstan, there is a dilemma regarding the choice of future development model. Economists indicate the absence of alternative innovative models of national economy development. Innovative business carries out ‘creative destruction’ of developed conditions and economy proportions, giving it a new quality and trajectory of development. But not all innovations enable the ‘creative destruction’, novelty as an impetus for scientific and technical progress. Innovative business development is related to intellectual property: objects of copyright, industrial property, know-how. Therefore, the formation of a market of scientific–technical production is in process. The infrastructure of a scientific–technical production market changes the innovative business. Innovative business is a business of ideas. Therefore, the efficiency of innovative business is predetermined by the introduction of management models used in foreign practice.

**JEL Classification:** O32, O34, M29.

**Keywords:** innovative business, Kazakhstan, copyrights.

**Reikšminiai žodžiai:** inovacinis verslas, Kazachstanas, autorių teisės.

## Introduction

The development of world economy in the post-crisis conditions makes the issues of innovation particularly relevant. Moreover, the strategic aim of many countries is to build an innovative economy, the basis of which is innovative business. Innovations allow each country to achieve competitive advantages, success and even economical ‘miracles’ in world development. The present article begins with disclosing the theoretical basis of innovation, including Schumpeter’s (1976) insights; intellectual property as the economic basis of innovative business is discussed; a classification of innovations is presented and several definitions of the concept of ‘innovation’ are considered. Problematic aspects in Kazakhstan as a post-socialist country are the privatization of non-material actives and non-commercial sciences, development of small innovative business, protection of the authors’ rights and models of management.

## 1. Theory of Innovation

The development of innovative business is a significant factor that allows increasing the competitiveness of national economies under the world crisis. It gives a chance to achieve strategic advantages in the conditions of rapid technological development.

According to Schumpeter (1976), innovations are classified into:

- basic innovations or development of new consumers goods;
- development of new mode (flexible manufacture (lean production) or TQM);
- establishment of new markets;
- establishment of new sources for raw materials;
- establishment of new business processes in the field of organizational work.

If to start from Schumpeter’s (1976) views, innovations include the development or establishment of new consumer goods or a new way of manufac-

ture, new markets, new sources for raw materials or new business processes in the sphere of work organization. The role of innovative activity in national economies is to establish 'innovative values'. High concentration of innovative values creates a 'technological wave' or a new technological way. The 'destruction of manufacture', as Schumpeter (1976) calls it, is carried out by innovators—businessmen who create innovations and blow up the state of equilibrium in national economies. Balance restoration occurs on a new level of macro proportions, new phase of technological development, resources redistribution from traditional branches to technological.

Innovations have various degrees of novelty and may be classified into improving and radical innovations. In general, innovative products belong to improving innovations, characterized by improvement of goods, standardization, scientific and technological progress, and the degree of novelty is low. On the contrary, radical innovations are characterized by essentially new ideas, essentially new technology, full unpredictability of results and high risk. Innovations are the beginning of scientific and technical progress.

The economic basis of innovative business is intellectual property. Intellectual property rights radically differ from material objects property rights. What regards non-material intellectual property, there is no possibility of physical possession, usage, orders, etc. The specificity of intellectual property is expressed through ascribing these rights to a special group—a group of exclusive rights. The exclusive right derives from the use of objects as material, is a more exact establishment of materialized objects.

The objects of intellectual property are: copyright objects, industrial property and know-how.

Copyright-protected is science, literature, art. To prove copyright ownership, no special procedures or security documents are necessary. The fact of product establishment is the basis for copyright recognition. Under the legislation of the Republic of Kazakhstan, the author has property and non-property rights.

Authors' property rights can be transferred under the law or under separate authors' agreements. Authors' personal non-property rights are inalienable. They belong to the author independently from property rights. Even the author himself or herself cannot transfer the personal right to another person (except for black economy cases when someone creates products under another person's name). Copyright protection is timeless.

The industrial property includes inventions, useful models, industrial samples. General criteria are novelties and their legal protection (document), fixed priority. Not the form, but the idea is under protection. Patent owner has an exclusive right to use the

industrial property. Through license agreements it is possible to use industrial property with a permission of the patent-owner. However, in case of emergency situations, the Government of the Republic of Kazakhstan has the right to use industrial property without the permission of the patent-owner, but with immediate notice and proportional indemnification.

The demand for patents in the Republic of Kazakhstan is one of the lowest in the world. If the demand for patent (quantity per 1 million of the population) in Japan is 877, in the U.S. 281, in Germany 156, in Russia 133, in Kazakhstan it is only 0.13 (Sabden et al., 2007).

Patent protection relates to the conditions of innovative business development. It is carried out externally and abroad.

Many controversial situations appear in practice regarding 'office inventions' created by an employee on an employer at work place; certain cases of employee discrimination by the employer exist. Within the limits of the current legislation, the inventor cannot realize his/her rights because employer rights are the priority. For example, the inventor has the right to receive payment which amounts to the benefit the employer received after the introduction of the invention into the market. However, for the inventor it is really difficult to obtain certain information or to calculate benefits received by the employer. Therefore, the employee often receives less than he/she should (as in the 'Kazakhmis' case).

## **2. Privatization of Non-commercial Actives and Commercial Sciences**

One of the conditions that prevent the creation of innovative market is the 'conservation' of non-commercial actives which investors received for free. In the privatization of non-commercial actives in Kazakhstan, objects were not considered on balance. Besides, employers are not interested in patenting inventions. So, according to Tatjeva (2007), the administration of a joint-stock company 'Mittal Steel Temirtau' send not all orders of intellectual property rights to the Committee, but only the ones considered useful and economically beneficial. The relative estimation of the non-material actives reduced from a market turn is characterized by the following fact: the receipt of a credit by 'Mittal Steel Temirtau' from the European Bank for Reconstruction and Development at a rate of USD 900 million. As a pledge, 60 security documents on trademarks and patents for inventions were presented. Tatjeva (2007) then stated that only software was registered as non-material actives in 'Mittal Steel Temirtau'.

Social-economic reforms in the Republic of Kazakhstan significantly influence scientific devel-

opment. The formation of market relations did not stimulate the development of science and research. This situation is caused by the burden of great expense and long-term economic return.

As a result, during the last years the total number of scientific–research organizations in the Republic of Kazakhstan has decreased. What is more, there is a sharp decrease in the quantity of projects and protectively-constructive organizations, while in industrial enterprises the scientific–research branch has disappeared.

The level of expense for science is low. For example, in Kazakhstan, the expense for research and development amounts to 0.26% of GDP, while in foreign countries, the percentage is as high as 40–60%. Therefore, insufficient financing of science has led to the emigration of experts.

According to Sabden et al. (2007), the number of people working in the field of research and development in Japan is 5,287 per 1 million, in the U.S. 4,484, in Germany 3,261, in Russia 3,319 and in Kazakhstan 629. Accordingly, the expense for research and development in Kazakhstan (per 1 person) is USD 11 in comparison with USD 991 in the U.S., USD 816 in Japan, USD 666 in Germany and USD 98 in Russia. The share of innovation-active companies in the whole industry of Kazakhstan is 3.4% (while in Germany it comprises 82.5%, in Sweden 75.3%, in Australia 60.8% and in Russia 10%). If the relative density of innovative production in the industrial output in Germany is 29%, in Australia 31% and in Russia 3.7%, in Kazakhstan it is only 2.3%.

To solve the problems of innovative processes, active cooperation between commercial structures, scientific–research institutes and high schools is necessary. With reference to foreign experience, it is possible to establish a Centre of Technological Advancement uniting national universities. Such a centre could perform several functions: demand for patents for domestic and foreign inventions; pay for the patents; provide licenses for patented intellectual property; protect property rights from possible infringements; collect royalties according to an established scheme of distribution between the centre and the authors of intellectual property (to cover administrative expenses) (Dnisev and Alzhanova, 2006).

Expenses can be shared between national universities (Centre of Technological Advancement) and the Government. The realization of projects would be beneficial for target value parties and promote the growth of the number of scientific experts.

The expenditure for scientific research is an investment into the human capital. The development process includes not only intellectual novelties (formation of new technologies and methods) but also the transformation of people as managing subjects.

All countries are experiencing a development of information society, where science is the generator of human capital, because the main role belongs to science. Hence, scientific potential support and development is the underlying national interest of Kazakhstan (Zhatkanbaeva, 2004).

Economic crisis in Kazakhstan causes the formation of commercial science. The results of scientific processes have to be in demand and traded. It is important to create scientific–technical production, as it would give economic freedom to scientists and encourage new financially beneficial ideas. Besides, it would expand the possibility to transfer knowledge and technology to the real sector.

To achieve the abovementioned aims, there is a need to build scientific–technical infrastructure, including incubators, technology parks to grow ideas, innovatively-financial structures. Despite the economical benefit of the infrastructure of scientific–technical production, there exists a social benefit too—new workplaces are created.

The national technology parks will have the status of free economic zones with privileges in terms of tax payment, customs, purchase of equipment and telecommunication. An example of a national technology park with a free economic zone is the ‘Park of Information Technologies’ in AlaTau. According to the Government Program for Biotechnological Manufacture the ‘Technopark NPO Progress’ was created. In a technology park ‘Altai’, universities of Eastern Kazakhstan are developing projects such as ‘Power Saving Technologies’ and ‘Manufacture of New Materials’. In Uralsk, a technology park was created in order to develop mechanical engineering, instrumentation and petrochemical.

To increase the efficiency of the use of scientific and technological potential, the Government approved the Program on Formation and Development of the National Innovation System of the Republic of Kazakhstan for 2005–2015.

### 3. Small Innovative Business

Small business has the highest potential in respect of innovations. Competitive advantages of small in comparison to large business is its dynamic, operative and flexible character, high motivation and low expensiveness, high level of sensuality and high level of adaptation to external environment.

Nowadays, small innovative business dominates not only on national markets, but also on international. In Western European countries, the small-scale business shares 20–40% of the industrial innovative experts. Therefore, in our country there is a necessity to create a favourable environment to small innovative business. It is possible to use interna-

tional experience in the fields of special mechanisms of financial, organizational, information support for small innovative business. For example, the Japanese experience in 'soft' use of loans (preferential), stimulations of the creation of innovative business associations, insurance support preventing from bankruptcies.

In Kazakhstan, small innovative business receives budgetary support only from the Science Fund and the National Innovation Fund of the Republic of Kazakhstan. Therefore, it is useful to accept the offer of the Institute of Economy under the Ministry of Education and Science of the Republic of Kazakhstan regarding the expansion of their network to create a fund to support small innovative business. The fund model is constructed with reference to the American SBIR Program which uses the mechanism of fixed deductions for the support of small innovative business. The basic ideas of the fund are support on the basis of open competition, financial decision-making by independent experts.

The possession of information products and their use as intellectual property may reduce transaction costs, allow working interactively, simplify distributions, mutual relations with suppliers, marketing. The space for commerce ceases to matter, and the new small aggressive companies can compete on the same level with the large ones.

In general, in the contribution of information technology (IT) companies to GDP is 3–4%. The mankind stays on the road of a 'digital decade'. Nearly different information devices can be used to share and to receive information. However, the world crisis influences the IT market too, sales volumes decrease (especially as regards computers).

The World Economic Forum calculates the rating of IT development all over the world. The criteria for the rating include the degree of IT penetration into other public sectors, the intensification of IT application. In the annual Global Competitiveness Report of the World Economic Forum 2006–2007, Kazakhstan was placed 73rd out of 122 countries.

In Kazakhstan, it is necessary to create small structures of new informational development technology, especially software. The organizational abilities are sufficient, because there are a number of scientific–research universities of mathematics and mechanics, information science and management, which meet necessary standards. An example of a successful software market development may be India.

As an important aspect, e-commerce market should be mentioned. This market is very profitable for investments (and for intellectual too). For example, the annual income of e-commerce in the Western Europe is predicted to be USD 300 billion, and in the U.S. USD 900 billion.

The Internet in Kazakhstan develops very quickly. It is characterized by the fact that prices do not hide market growth. Its development rates exceed the rates of all other kinds of telecommunication and are comparable with cellular communication. If earlier more than a half of the whole Internet market concentrated in Almaty and Astana, now it expands into other regions as well. Generally, in Kazakhstan there are all basic technologies that provide access to the Internet.

#### **4. Protection of Authors' Rights and Ideas Management Models**

In Kazakhstan, the protection of intellectual property is regulated by the Law on Copyright and the Adjacent Rights and the Patent Law of the Republic of Kazakhstan. Kazakhstan has joined the World Intellectual Property Organization and, accordingly, has coordinated the copyright system and the usage of music and soundtracks with this organization. What is more, at present under protection are the rights which earlier were not subject to any protection in the territory of Kazakhstan.

The problem of copyrights protection in Kazakhstan is satirized by the accession to the World Trade Organization. It appeared that the population lacks legal knowledge in terms of piracy. Awareness of the population as well as creative and scientific intelligence is important for a successful copyright protection.

The weak point of the development of innovative business in Kazakhstan is not the process of the creation of ideas, but their implementation in practice. Therefore, under the conditions of crisis, it is necessary to introduce new models of management for innovative business used in foreign countries (Gershman, 2007):

- offers model;
- commands of continuous perfection;
- open door policy;
- new venture commands;
- an incubator of ideas;
- the promotion of ideas and realization in scales of organization;
- innovative commands;
- the catalyst of innovations.

The offers model allows creating an organization where employees can submit offers and ideas, while an innovations council makes decisions according to certain established criteria. In this way, individual creativity is developed. It is useful to develop such a model in organizations with individualistic culture. This model is simple, not expensive and applicable for small business.

Commands of continuous perfection represent informal working groups which are created at each

structural division of an organization. Commands of continuous perfection are based on creativity. Therefore, they are useful for organizations characterized by collectivism. In this case, each employee forwards ideas directly to the executive directors, who are the decision-makers. Executive directors should be democratic and creatively-thinking. Commands of continuous perfection are recommended to be introduced in companies of stable development. No particular expenses are necessary for the introduction of this model; however, the occurrence of conflict situations between employees (authors of ideas) and middle management is possible.

In order to receive non-traditional ideas it is useful to apply new venture commands. It includes the establishment of experts target groups who are responsible for the whole process—from the creation of idea to the development of a business plan. Conclusion about financial projects includes alternative decisions: refusal of either partial or full financing, receiving permission to make license agreements with other companies or joint venture creation.

If the mission of an organization is a continuous creation of innovative products, it is recommended to apply the incubator of ideas model. It implies the creation of a separate decentralized division as a part of a company that would create and generate ideas.

The model of the promotion of ideas and their realization in scales of all organization is intended for organizations that plan consecutive development of innovative activity. The model should be consistently introduced in company divisions. Consecutive approbation of the model may lower its costs. The advantages of this model are the involvement of all employees and the disclosure of their innovative potential. For the regulation of the flow of ideas, a group of managers should be created.

In corporate structures of divisional organization, it is recommended to introduce the model of innovative commands. The essence of this model is the formation of a network of innovative employees (characterized by the ability to generate innovative ideas). Their tasks should include the search and advancement of ideas.

In decentralized companies, it is recommended to apply the model of the catalyst of innovations. In this model, a single division is the generator and implementer of ideas. The idea is processed, tested, analyzed and approved in one division. For the implementation of this model, strong managers and employees with creative thinking are necessary. It would promote the development of management abilities and enable to receive income from innovative activity. However, its introduction requires long-term efforts.

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### KAZACHSTANO INOVACINIS VERSLAS PO KRIZĖS

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**Santrauka.** Apžvelgiama inovacijos kaip verslo konkurencinių pranašumą rodiklis, jo sudedamosios, klasifikacijos, nematerialiųjų aktyvų rodikliai remiantis Kazachstano SVV pavyzdžiu, autorių teisių apsauga bei vadybos modeliai.

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