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OVERCOMING BARRIERS FOR COMMERCIALIZING RESULTS OF RESEARCH WORK IN UKRAINE



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International cooperation on the commercialization issues of scientific research



In Ukraine, as in other countries with transitional economies, there are numerous obstacles on the way of commercialization of the results of scientific research, the most difficult among are those connected with the incompetence in the sphere of innovative activities.

General Situation

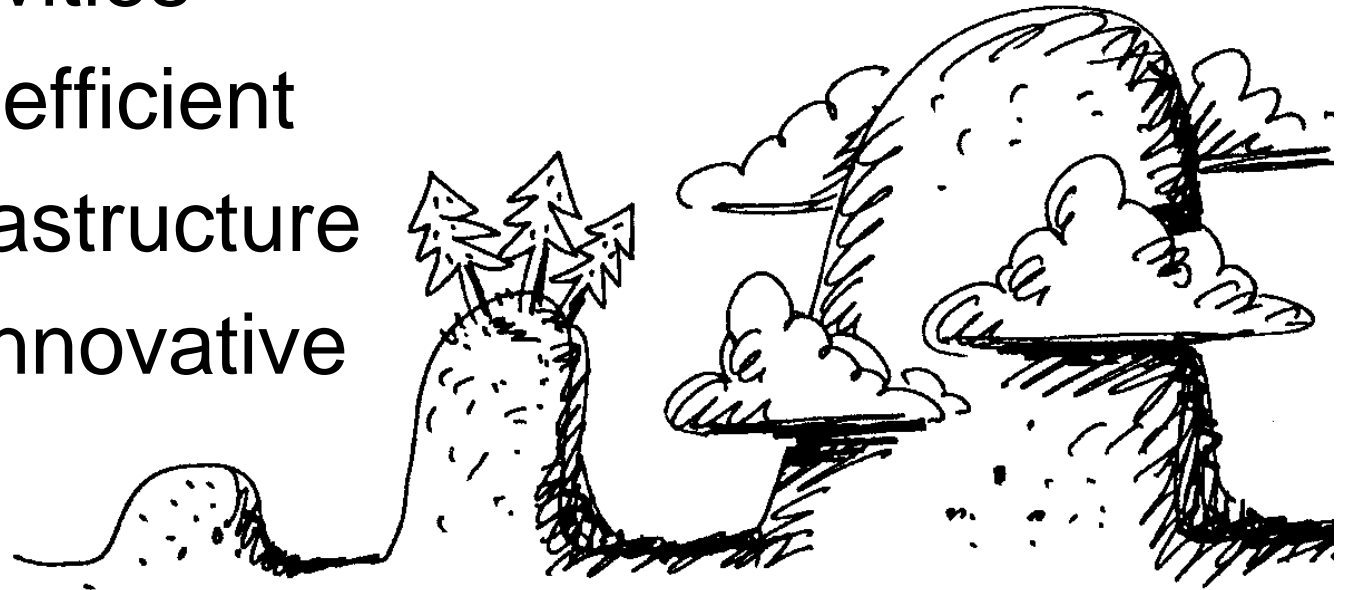
- Approximately 150,000 Scientists engaged in research in Ukraine
- 65,000 valid invention patents
- 81 place on commercial competitiveness between 131 countries
- Sales of innovative products accounted for 5.9 % share in the overall industrial output



Determining the Barriers

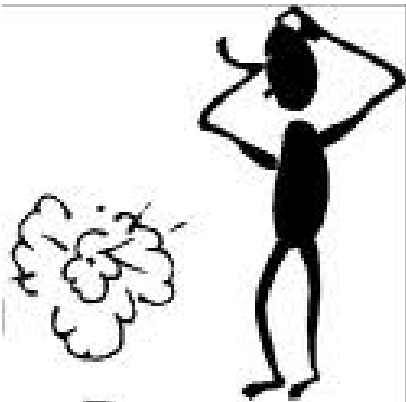
(Delphi Method with 14 experts)

1. Scientists have insufficient competency of innovative activities
2. Insufficient financing of innovative activities
3. Ineffective normative policy and legal base for innovative activities
4. Absence of efficient innovative infrastructure
5. Ineffective innovative management



Insufficient competencies of the subjects of the innovative activities

- The leaders (directors, managers of scientific organizations and industrial enterprises) don't realize the leading role of intellectual property and intellectual activity in the development of Ukraine's economy
- Low effectiveness of business training systems for scientific personnel
- Age of the majority of scientists with the highest qualification (60-85 years)



Barriers that describe insufficient funding of innovative activities

- Insufficient stimulation of innovative activities
- Insufficient amount and irrational directions of state funding of the innovative projects
- Absence of state support of the innovative business



Barriers of policy imperfection in the normative and legal base of the innovative activities

- Absence of state innovative policy and strategic development programmes of the economic branches
- The state doesn't stimulate effectively the innovative activities financially nor organizationally
- The legal-normative policy that regulate the legal framework in the sphere of innovative activities is uncoordinated



The barriers that describe the absence of effective innovative infrastructure

- The degradation of the scientific and research institutes
- Industrial sphere is not interested in technological innovations
- The structural departments of industrial enterprises, that were responsible for innovative activities, have been liquidated



Barriers that describe imperfection of innovative management

- The scientists don't understand for whom and why the results of their research are needed
- Low motivation of the scientists in scientific institutes and universities
- Scientists are not oriented toward market needs and market problems



Recommendations

The recommendations were formulated by Ukrainian experts using Hierarchical Analysis to overcome the obstacles on the way to commercialization of scientific research.

According to the level of importance the recommendation groups have the following sequence (in decreasing order):

- Political – 0.536
- Economic - 0.214
- Social – 0.146
- Legal – 0.106

Tables below show ratings of the 34 recommendations from 12 Ukrainian experts within each factor.

The strength of each factor was measured with regard to the central goal of increasing output of innovative products.

A. Recommendations within the political factor

Recommendation	rating
1) to re-orient gradually the state policy from practices of financial donor support to creating favorable conditions and environment for investing into innovation activities and spreading innovations in every economic sector;	4.50
2) to grant tax vacations to enterprises, releasing them from profit tax on the objects of intellectual property included in the corporate balance of payments until the first transition with them;	3.83
3) to create a permanent system of state support for various forms of innovation activity, including venture funds similar to the State Innovation Fund recently liquidated;	3.50
4) the government of Ukraine should develop and approve a strategic plan of innovation development of Ukraine;	3.33
5) to bring the state innovation policy into compliance with the burning economic needs of the country and the situation in the world;	3.33

6) when forming the state innovation policy, to identify the agriculture and energy saving in energy-intensive industrial branches as priority sectors for innovations;	3.33
7) the government of Ukraine should resolve the issue of Ukraine's official participation in the international entrepreneurship support networks to allow Ukrainian companies to participate in international technology transfers;	3.17
8) to encourage the creation of organizational units responsible for technology transfers, innovation activities, and intellectual property in state executive bodies, as well as research, education, healthcare, and other state institutions under governance of the former to make manufacture of innovative products more effective;	3.17
9) when developing the state system of innovations, the enterprise should be placed in the center;	3.00
10) the government of Ukraine should develop and approve a concept of innovation development of Ukraine;	2.83
11) to create a vertical of state management of innovation activity;	2.83
12) the government of Ukraine should develop and approve a state program of innovation development of Ukraine;	2.67
13) to develop and approve a concept of innovation development of Ukraine's economy.	2.50

B. Recommendations within the economic factor

Recommendation	Rating
1) to reduce the tax burden for subjects of innovation activity – small innovation companies and large enterprises that cooperate with the former, and grant them privileges to facilitate their expansion into foreign markets;	4.50
2) to grant to small and medium-sized innovation companies financial privileges in their leasing space at state budget-funded organizations for the first five years against compensation for the said privileges to be returned within the next five years;	4.00
3) to create regional and national innovation clusters in priority areas of economic development;	3.67
4) to increase to a reasonable amount the R&D allocation in the state budget of Ukraine (currently – 1.4 percent);	3.50
5) to create an exchange of small knowledge-intensive companies to present the existing companies or their projects to external investors;	3.17
6) the Cabinet of Ministers of Ukraine should form a state order for professional training (professional advancement) of state officials whose purview include acquiring, exercising, and protecting intellectual property rights;	3.17
7) to introduce progressive rates of payment for patents for objects of intellectual property, reducing them for the first five years and increasing for the following years, taking into account the involvement in innovation activities, in accordance with the approved strategic development plan of the company.	3.17 ¹⁵

C. Recommendations within the social factor

Recommendation	Rating
1) to promote social significance of intellectual work and innovation activities;	4.33
2) to promote innovation culture of society in general and of state officials with respect to innovation entrepreneurship in particular;	4.17
3) to develop subsidizing and compensational measures for small and medium-sized businesses to meet the WTO requirements;	4.00
4) to create a system of national innovation clusters as centers of implementing national priorities through the formation of networked economy of innovation orientation;	3.33
5) Local authorities should promote public acknowledgement of innovations in their regions, establishing periodic monitoring of the innovation attractiveness of the local socio-economic environment.	3.17 ¹⁶

D. Recommendations within the legal factor

Recommendation	Rating
1) to amend the effective legislation to allow institutions of higher learning, as well as research and development institutions to create small companies to commercialize R&D results;	4.33
2) to reduce the tax burden on and clearly formulate state guarantees for foreign investors;	4.17
3) to involve small companies on legislative grounds in fulfilling state orders for knowledge-intensive products;	4.00
4) to establish at the legislative level that the part of a company's profit intended for its innovation development should not be subject to taxation;	4.00
5) to grant at the legislative level privileges to all subjects of innovation activity, including consumers of innovative products;	3.83

6) to ensure at the legislative level free-of-charge transfer to small innovation companies licenses for the results of the intellectual work financed from the state budget, except for those under the special turnover regime (basic military and dual-purpose technologies);	3.67
7) to grant at the legislative level the right to research, research-development, and educational institutions and organizations to transfer their property (premises, equipment, intangible assets and so on) to the authorized funds of small innovation companies created by their staff members and operating in the same are as the said institutions and organizations;	3.50
8) to establish at the legislative level a single authorized body responsible for the development and implementation of state innovation policy;	3.00
9) to systematize and harmonize the legislative and regulatory base of innovation activities and create an innovation code.	3.00

Recommendations on Improving the Internal Environment of Innovative Companies to Increase their Output of Innovative Products

- The central goal, which is increasing the output of innovative products, is affected by both the external factors: political, economic, social and legal, which are discussed above, and the company's internal factors such as planning, organization, motivation, control, marketing, staff training and so on that are aimed at increasing the attractiveness of manufacture of innovative products in the eyes of industrialists and entrepreneurs.
- The experts offered also 22 recommendations on improving the internal environment of innovation companies.

E. Improving the internal environment of the innovation company

Recommendation	Rating
1) to create a creative climate within the staff of the company;	4.00
2) to create a team of creative professionals at the company	4.12
3) to create an information system at the company (access to information databases, patent situation and marketing studies, high information technology);	3.62
4) to establish relations with business partners (innovation managers, investors, research and testing bases, R&D organizations, market specialists, large companies and so on);	3.62
5) to create a system of creativity motivation at the company (to include the innovation parameter of the staff in the basic parameters determining the level of remuneration);	4.50
6) to ensure systematic professional advancement of the staff and company managers in applying market instruments for enhancing competitiveness: innovation management, technology audit, strategic marketing, and intellectual property management;	3.50

7) the company should seek ISO certification	3.25
8) to develop and implement a corporate strategy in organization, based on radical innovations;	3.62
9) to implement modern management methods (based on information technology)	3.50
10) to organize and improve the marketing service to organize and form the fundamental marketing concept (strategy) for the company;	3.62
11) to ensure broad involvement of the staff in setting strategic development tasks for the company;	2.87
12) to organize special information events for the staff to spread the best practices of organizing manufacture of innovative products;	2.75
13) to work out long-term business development plans for the company, including: improving production technologies, upgrading the fixed assets and product range, developing new product niches on the internal and external markets;	3.50

14) to promote professional advancement of the staff, specifically studying and mastering modern methods of innovative management by the company management;	3.37
15) to establish and maintain contacts between the company and research centers and other subjects of innovation activity;	3.62
16) to conduct holistic patent situation studies at all life cycle stages of an innovative product;	3.62
17) to assess the economic expediency of manufacturing a specific innovative product at all its life cycle stages;	3.87
18) the development strategy of an innovation company should be centered on innovative products (the results of creative efforts);	3.75

<p>19) to develop and introduce an innovation passport for companies, taking into account the innovation projects they implement and their strategic innovation development plans.</p>	<p>2.50</p>
<p>20) to create at innovation companies organizational units managing innovation activities, or appoint a person in charge of innovation activity;</p>	<p>3.62</p>
<p>21) to set up targeted research and production innovation associations based on the principle “fundamental science – applied science – manufacture” operating 50 percent on a self-supporting basis and 50 percent funded from the state budget, using the budget allocations for applied science;</p>	<p>4.12</p>
<p>22) to abandon the idea and liquidate special funds in state budget-funded, production, and educational institutions; that is, to introduce a mixed form of budget and non-budget (special) funds. The latter should operate on a progressive single tax, which will broaden their commercial possibilities.</p>	<p>3.00</p>

In Conclusion

The government's support for innovation activity is important, of course, but innovative products are made by specific business people at specific companies and they need specific recommendations.

Furthermore, innovative products are a result of joint efforts of all subjects of innovation activity: state authorities, research institutions, intermediaries, and businessmen.

Thus, it requires a holistic approach to organize the processes so that innovative products become mass-produced commodities.



Thank You

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